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- Free, downloadable resources full of fun at-home reading, math and critical-thinking activities for children in grades preK-8; available in English and Spanish.

bit.ly/timeathome bit.ly/tiempoencasa

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For the Love of Reading

RANDI WEINGARTEN, AFT President

I LOVE TO READ, although these days I do much of it on a computer screen. As a child I remember my mother, who was a second-grade teacher, always making sure we had books at home—books like The Hundred Dresses by Eleanor Estes, The Jazz Man by Mary Hays Weik, and The Story of Ferdinand by Munro Leaf. Books I read as

a teenager shaped my quest for justice and the fight against discrimination-books like Anne Frank's The Diary of a Young Girl and Harper Lee's To Kill a Mockingbird. And I will always be mesmerized by Emma Lazarus' iconic poem, "The New Colossus" with such lyrical language as "The wretched refuse of your teeming shore.... I lift my lamp beside the golden door!"

Even as much of my time, before and during the pandemic, is devoted to fighting for our members, our students, and our communities, I try to make time for reading. Whether it's for work or for pleasure, I read to stay informed, to spark new ideas, to renew my spirit, and to better understand others' perspectives. I can't imagine my life without the written word—and I'm grateful to the teachers, including my mother, who gave me the gift of reading when I was young.

Reading is not simply a desire; it is a fundamental skill necessary for virtually everything we do. And we need to ensure all of us, particularly our children, learn to read and read to learn so they too can do everything. That's why the AFT is pleased to update and republish Teaching Reading Is Rocket Science, 2020: What Expert Teachers of Reading Should Know and Be Able to Do. This report, written by Louisa C. Moats (a teacher, psychologist, researcher, and professor who has been at the forefront of science-based reading instruction for five decades) translates the latest reading research into accessible language so that those of us who are not steeped in the pedagogy of reading can

apply it to our own teaching and learning.

Let me tell you what the report does and doesn't do. It doesn't get us back into the reading wars, and it doesn't advocate for what we have found so disrespectful: scripted curricula or "teacher proof" programs. It does detail the expert-level knowledge of language necessary to teach

countless hours searching online to supplement the inadequate materials and training they have been given. So much of what sounds persuasive on paper just doesn't work well in the classroom-or works well only for students who most easily master the art and science of reading. This report tries to fill that void.

The science of reading is inextricably linked to the love of reading. To teach and inspire the next generation, we simply can't have one without the other.

reading, and it does support teachers in building that knowledge.

In disseminating effective practices grounded in research, everyone has a role to play. From teacher-preparation programs to school systems, from state officials to curriculum developers, we must move quickly to revamp the guidance and resources provided to educators. But I'm betting on our nation's teachers. This pandemic has shown everyone what any of us who have spent five minutes with teachers know: as a profession we have the drive and the passion to do the hard work of understanding and using the science of reading. And it is hard work, much harder than it should be since so few of the education publishers and professional development providers have cast aside their profitable-but-outdated materials and programs to create new resources that reflect the latest research.

The current state of reading research understands the importance of teacher professionalism and autonomy. Embracing the science is, fundamentally, about giving teachers the freedom to teach. Teachers' hearts break when students struggle to decipher words on a page and explain what they mean. Desperate to support those students, teachers spend

Moats, who has dedicated her career to struggling readers, wrote the first version of Teaching Reading Is Rocket Science, which the AFT published, in 1999. In it, she explained how children learn to read, the essential components of reading instruction, what causes reading difficulties and how to prevent or reduce them. In this new edition, she adds depth to the science and provides clarity on the challenge before us: taking action.

Teaching reading really is rocket science. Academic English is complex. Given this complexity, children need carefully planned instruction to become fluent readers, spellers, and writers. And, because of the enormous inequities in our society, providing each child an equitable opportunity to revel in an abundance of books in which they both see themselves and are introduced to the world is no small task.

Still, there is joy in this work—whether reading aloud stories and poems that delight young and old, or introducing the wonder of new words and ideas to children. Ultimately, the science of reading is inextricably linked to the love of reading. To teach and inspire the next generation, we simply can't have one without the other.



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LAUNCHING LITERACY

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What Expert Teachers of Reading Should Know and Be Able to Do

By Louisa C. Moats

The science of reading indicates that literacy instruction must be explicit and systematic, developing everything from decoding skills to content knowledge. Yet critical factors, including teacher preparation and literacy curricula, are often not aligned with this science. To ensure that more children become strong readers, many systems, policies, and supports need to be revamped now.

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A former college professor reflects on the challenges that led her to found an organization to promote effective reading instruction.

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Although matching students with books at their "just right" level is a widespread practice, it often doesn't maximize student learning. A more effective approach is supporting students as they read a variety of texts, including those they find challenging.

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Celebrating Our Linguistic Strengths By Chan Lü

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By Randi Weingarten

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Download this issue for free at www.aft.org/ae.



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Teaching Students to Read

As Louisa C. Moats writes in this issue's cover article, "the most fundamental responsibility of schools is teaching students to read." Fortunately, there is now a strong research base to guide literacy instruction but relatively few teacher preparation programs, curricula, or other resources intended to support teachers currently build on that research. Today, about 20 percent of elementary school students across the country struggle with learning to read, and another 20 percent are not meeting grade-level expectations in reading. But these nationwide averages mask a tragedy: among students growing up in underresourced communities—mainly African American and Hispanic students and students whose home language is not English—about 60 to 70 percent have weak reading skills. This issue can largely be addressed now and avoided in the future. The current science of reading is complex, requiring high-quality materials and focused instruction over several years. But results are heartening, with all but about 5 percent of children learning to read well.

In summarizing that science, Moats presents a conceptual model known as the Simple View of Reading, which "states that reading comprehension is the product of word recognition and language comprehension. Without strong skills in either domain, an individual's reading comprehension will be compromised." Share My Lesson has resources to help.

Here, we highlight materials created by the Florida Center for Reading Research, an interdisciplinary research center at Florida State University that has nearly 40 resources available through Share My Lesson.

Word Recognition

To develop word recognition, phonological awareness is essential. One resource from the Center suggests using a picture slide so students can segment and blend phonemes (speech sounds) in words. Another activity engages children in practicing phoneme segmenting and blending; it uses Elkonin Box picture cards—as children say what they see in the picture, e.g. fish, they place a token in a box for each phoneme they hear.

Playing with language is also fun with the Center's "Treasure Chest" game, in which students take turns segmenting words into phonemes and blending them to use as clues. Another enjoyable activity is "Brown Bag It"

in which children match initial phonemes to graphemes (letters and letter combinations that represent phonemes/sounds) by sorting pictures based on initial sounds into 26 paper bags labeled with each letter of the alphabet.

Language Comprehension

While learning to sound out words is essential, comprehension relies on much more—like academic knowledge, vocabulary, and familiarity with complex sentence structures. The Center offers several resources to support students in strengthening language comprehension.

For example, in the "Classifying Info" activity students write words or phrases in a graphic organizer that describe and/or relate to a category of a topic based on an expository text. One graphic organizer the Center recommends to help students monitor their understanding is a K-W-L chart. In three separate columns, students keep track of what they already know about a text (K), what they would like to learn (W), and what they learned after reading the text (L).

Another activity the Center suggests is a "Classic Classifying" graphic organizer, in which students write at least four words or phrases that describe and/or relate to a category of a topic. For instance, if the text is about a lion, students could create categories such as "food," "home," "appearance," and "behavior," and thus keep track of what they learn. Finally, "Expository Exploration." is another of the Center's activities in which students create a graphic organizer to help them examine and identify a text's main idea and details.

Teaching students to read so they become lifelong learners—and experience the joy of reading—is of the utmost importance. To see the thousands of other literacy supports Share My Lesson offers, visit our entire collection of lesson plans, resources, and activities. If you have additional ideas or requests, please reach out to us at content@sharemylesson.com.

-THE SHARE MY LESSON TEAM



Recommended Resources

The Florida Center for **Reading Research** http://go.aft.org/ae220sml1

Picture Slide—Phoneme Seamenting and Blending http://go.aft.org/ae220sml2

Phoneme Split and Say Activity http://go.aft.org/ae220sml3 **Treasure Chest—Phoneme** Segmenting and Blending http://go.aft.org/ae220sml4

Brown Bag It—Letter-Sound Correspondence http://go.aft.org/ae220sml5

Classifying Info—Monitoring for Understanding http://go.aft.org/ae220sml6 K-W-L Chart—Monitoring for Understanding http://go.aft.org/ae220sml7

Classic Classifying— **Expository Text Structure** http://go.aft.org/ae220sml8

Expository Exploration— Expository Text Structure http://go.aft.org/ae220sml9

Teaching Reading *Is*Rocket Science

What Expert Teachers of Reading Should Know and Be Able to Do



By Louisa C. Moats

he most fundamental responsibility of schools is teaching students to read. Because reading affects all other academic achievement and is associated with social, emotional, economic, and physical health, it has been the most researched aspect of human cognition. By the year 2000, after decades of multidisciplinary research, the scientific community had achieved broad consensus regarding these questions: How do children learn to read? What causes reading difficulties? What are the essential components of effective reading instruction and why is each important? How can we prevent or reduce reading difficulties? Two decades later, hundreds of additional studies

Louisa C. Moats has been a teacher, psychologist, researcher, graduate school faculty member, and author of many influential scientific journal articles, books, and policy papers on the topics of reading, spelling, language, and teacher preparation. After 15 years as a licensed psychologist specializing in evaluation and consultation with individuals who experienced reading, writing, and language difficulties, she served as a site director of the National Institute of Child Health and Human Development's Early Interventions Project and research advisor and consultant with Sopris Learning.

have refined and consolidated what we know about bolstering reading achievement, especially for students at risk.

Scientists use increasingly sophisticated technology that can picture the brain's activation patterns or measure split-second reactions to speech or print. New statistical methods can document the complicated interactions of many factors as students develop reading skills. Fine-grained analyses illuminate the nature of individual differences and individual responses to instruction. These advanced investigative techniques have confirmed and extended the bedrock findings about reading and effective teaching of reading that were known 20 years ago. Evidence to guide our practices is stronger than it has ever been.

Unfortunately, much of this research is not yet included in teacher preparation programs, widely used curricula, or professional development, so it should come as no surprise that typical classroom practices often deviate substantially from what is recommended by our most credible sources. As a result, reading achievement is not as strong as it should be for most students, and the consequences are particularly dire for students from the least advantaged families and communities.

This we know: reading failure can be prevented in all but a small percentage of children with serious learning disorders. It

Policies and systems currently impacting how reading is taught need to improve—dramatically and rapidly.



is possible to teach most students how to read if we start early and follow the significant body of research showing which practices are most effective. Students living in poverty, students of color, and students who are eligible for remedial services can become competent readers—at any age. Persistent "gaps" between more advantaged and

less advantaged students can be narrowed and even closed. Fundamentally, these gaps are the result of differences in students' opportunities to learn—not their learning abilities.

Although educators have long understood the importance of literacy, teaching children to read is very complex. Far too many children have trouble reading and writing. About 20 percent of elementary school students nationwide have serious problems learning to read; at least another 20 percent are at risk for not meeting grade-level expectations.1 For children growing up in underresourced communities and attending underresourced schools, the incidence of reading failure is astronomical and completely unacceptable. Students who are African American, Hispanic, learning English, and/or from impoverished homes fall behind and stay behind in far greater proportion than students who are white and middle class. The rate of weak reading skills in these groups is 60-70 percent, according to the National Assessment of Educational Progress.2

The tragedy here is that most reading failure is unnecessary. We now know that classroom teaching itself, when it includes a range of research-based components and practices, can prevent and mitigate reading difficulty. Although home factors do influence how well and how soon students read, informed classroom instruction that targets specific language, cognitive, and reading skills beginning in kindergarten enhances success for all but a very small percentage of students with learning disabilities or severe dyslexia. Researchers now estimate that 95 percent of all children can be taught to read by the end of first grade, with future achievement constrained* only by students' reasoning and listening comprehension abilities.3

While parents, tutors, and the community can contribute to reading success, classroom instruction is the critical factor in preventing reading problems and must be the primary focus for change.4 To be clear: although the day-to-day work is teachers' responsibility, students' reading success is our shared responsibility. From preparation programs to standards and assessments to curricula and professional development, the policies and systems currently impacting how reading is taught need to improve—dramatically and rapidly. Teaching reading is rocket science. But it is also established science, with clear, specific, practical instructional strategies that all teachers should be taught and supported in using.

Research-Validated Ideas for Instruction

A well-validated concept that should underpin the design of instruction is called the Simple View of Reading.⁵ It states that reading comprehension is the product of word recognition and language comprehension. Without strong skills in either domain, an individual's reading comprehension will be compromised.

A reader's recognition of printed words must be accurate and automatic to support comprehension. The development of automatic word recognition depends on intact, proficient phoneme awareness, knowledge of sound-symbol (phoneme-grapheme) correspondences, recognition of print patterns such as recurring letter sequences and syllable spellings, and recognition of meaningful parts of words (morphemes). Young readers progress by gradually learning each of these ways that our print system represents language, and then applying what they know during ample practice with both oral and silent reading. If reading skill is developing successfully, word recognition gradually becomes

This article is an excerpt of Teaching Reading Is Rocket Science, 2020: What Expert Teachers of Reading Should Know and Be Able to Do, which emerged from a collaboration between the American Federation of Teachers and the Center for Development and Learning.

In this report, Louisa C. Moats calls for teacher preparation and professional development to be more rigorous and better aligned with decades of reading science. She describes the knowledge that undergirds successful instruction and concludes with recommendations for the professional

preparation of all teachers of reading. It is our nation's dedicated teachers and their excellent teaching that will bring the rocket science that is research-based reading instruction to classrooms across the country and will unlock the power and joy of reading for our children.

Teachers, administrators, professors, and district and state leaders are encouraged to read the full report by visiting www.aft.org/sites/ default/files/Moats.pdf.



^{*}It is important to note that students' reasoning and comprehension abilities can also be enhanced through informed instruction. As students' subject-matter knowledge and vocabulary grow, so will their capacity to think critically.

Persistent "gaps" between more advantaged and less advantaged students are the result of differences in students' opportunities to learn.



so fast that it seems as if we are reading "by sight." The path to that end, however, requires knowing how print represents sounds, syllables, and meaningful word parts; for most students, developing that body of knowledge requires explicit instruction and practice over several grades. While some students seem to figure out how the print system works through incidental exposure, most do not.

Language comprehension, the other essential domain that underlies reading comprehension, depends on background knowledge, vocabulary, ability to decipher formal and complex sentence patterns, and recognition of the devices that hold a text together.⁸ Furthermore, language comprehension is facilitated by metacognitive skills such as monitoring whether reading is making sense and choosing to act if it does not. The language comprehension factor in overall reading achievement becomes more and more important from about fourth grade onward.⁹ From preschool through high school, students gain vital exposure to a variety of text forms, language patterns, background knowledge, and vocabulary both by listening to text read aloud and by reading itself.

The implications of the Simple View of Reading should be self-evident: reading and language arts instruction must include deliberate, systematic, and explicit teaching of word recognition and must develop students' subject-matter knowledge, vocabulary, sentence comprehension, and familiarity with the language in written texts. Each of these larger skill domains depends on the integrity of its subskills.

Learning to read is a complex achievement, and learning to teach reading requires extensive knowledge and skills across the components of word recognition, language comprehension, spelling, and writing. Consider what the classroom demands of the teacher. Children's interest in reading must be stimulated through regular exposure to interesting books and through discussions in which students respond to many kinds of texts. For best results, the teacher must instruct the majority of students directly, systematically, and explicitly to decipher words in print, all the while keeping in mind the ultimate purpose of reading, which is to learn, enjoy, and understand. To accommodate children's variability, the teacher must assess children and tailor lessons to individuals or groups. This includes interpreting errors, giving corrective feedback, selecting examples to illustrate concepts, explaining new ideas in several ways, and connecting word recognition instruction to meaningful reading and writing.

Some children learn language concepts and their application very easily in spite of incidental teaching, but others never learn unless they are taught in an organized, systematic, efficient way by a knowledgeable teacher using a well-designed instructional approach. Children of average ability might learn enough about reading to get by if their instruction is haphazard; with systematic research-based instruction, those students could achieve much more, such as the appreciation for language structure that supports learning words from context, perceiving subtle differences in meaning, or refining language use.

Toward a Curriculum on the Science of Reading

A core curriculum on effective literacy instruction for pre-service and in-service teacher education would, of course, be supplemented and honed over time, but its goal is to bring continuity, consistency, quality, and comprehensiveness to the many different programs, organizations, and systems through which aspiring and current teachers receive information about how to teach reading. Given the current science of reading, this core should be divided roughly into the following four areas:

- 1. Knowing the basics of reading psychology and development;
- 2. Understanding language structure for both word recognition and language comprehension;
- Applying best practices in all components of reading instruction; and
- 4. Using validated, reliable, efficient assessments to inform classroom teaching.

This excerpt offers an introduction to the first two areas. For a detailed discussion of all four areas, please see the full report: www.aft.org/sites/default/files/Moats.pdf.

1. Reading Psychology and Development

Learning to read is not natural or easy for most children. Unlike spoken language, which is learned with almost any kind of contextual exposure, reading is an acquired skill. Although surrounding children with books will support reading development, and a "literature-rich environment" is highly desirable, it is not sufficient for learning to read. Neither will exposure to print ordinarily

A reader's recognition of printed words must be accurate and automatic to support comprehension.

be sufficient for learning to spell, unless organized practice is provided. Thus, teachers must be reflective, knowledgeable, and intentional about the content they are teaching—that is, the symbol system (orthography) itself and its relationship to meaning.

Good readers do not skim and sample the text when they scan a line in a book. They process the letters of each word in detail, although they do so very rapidly and unconsciously. Those who comprehend well accomplish letter-wise text scanning with relative ease and fluency. When word identification is fast and accurate, a reader has ample mental energy to think over the meaning of the text. Knowledge of sound-symbol mapping is crucial in developing word recognition: the ability to sound out and recognize words accounts for about 80 percent of the variance in firstgrade reading comprehension and continues to be a major (albeit diminishing) factor in text comprehension as students progress through the grades (and students' background knowledge and vocabulary become ever-larger factors in comprehending academic texts).11

The ability to sound out words is, in fact, a major underpinning that allows rapid recognition of words. (This recognition is so fast that some people mistakenly believe it is happening "by sight.") Before children can easily sound out or decode words, they must have at least an implicit awareness of the speech sounds that are represented by symbolic units (letters and their combinations). Children who learn to read well are sensitive to linguistic structure, recognize redundant patterns, and connect letter patterns with sounds, syllables, and meaningful word parts quickly, accurately, and unconsciously. Effective teaching of reading entails these concepts, presenting them in a sequence from simple and consistent to complex and variable.

The word-recognition component of reading is most closely dependent on the phonological aspect of language processing. 12 Phonological language skills include awareness of bits of speech or linguistic elements within words: consonant and vowel phonemes, spoken syllables, grammatical endings, and meaningful word parts (morphemes). Awareness of these linguistic elements in spoken language is essential for making sense of print because our alphabetic writing system represents language at all these levels. When students cannot rapidly associate the sounds, syllables, and/or morphemes in spoken words with printed symbols, they will not be able to store words in their mental dictionaries. Conversely, a new word that is decoded accurately through phonological analysis can be pronounced and remembered, even if its meaning is not yet known.

Beginning reading instruction of necessity will focus on teaching students how to read and write words, following a systematic and logical sequence. When appropriate, the emphasis will shift to increasing reading volume. Combining research on reading, cognitive science related to the role of knowledge in

thinking, and practice-based wisdom, it appears that opportunities for wide reading are best provided within a knowledge-building curriculum in which text readings are linked by a theme or topic. 13 Ironically, while background knowledge can be gained from reading, it is also true that those who already know more about a topic make



Using the Science of Reading to Shed Light on Myths and Misconceptions

Teachers are often not in a position to make decisions regarding school district reading curricula and/or reading texts. Nevertheless, teachers who understand the foundations of reading psychology and development will be better prepared to argue against the adoption of irresponsible fads and countermand the proliferation of appealing but unsupported ideas. Examples of enduring myths and misconceptions that are embedded in popular programs, articles, and textbooks¹⁰ include:

- reading instruction is only needed until third grade;
- competent teachers do not use

- published reading programs;
- avoiding published reading programs empowers teachers and enhances the professional status of teaching;
- teaching phonics, word attack, and spelling skills directly to children is harmful;
- reading a lot is the best way to overcome a reading problem;
- children should be taught to guess words on the basis of meaning and syntax; and
- skills must always be taught in the context of literature.

With no accountability system to check their dissemination, unsupported ideas such as these fill the void left by weak pre-service and in-service programs. Perhaps the dubious quality of past educational research has justified the prevalent cynicism among educators, who are often told that research exists to support any point of view. However, reading is actually one of the most studied aspects of human behavior, and a large body of work based on sound principles of objective inquiry exists that could be informing the field. Converging findings from multiple studies, like those summarized in this article, should drive the profession.

-L. C. M.

Learning to teach reading requires extensive knowledge and skills of word recognition, language comprehension, spelling, and writing.

better inferences and retain meanings better than those who know little about it. Therefore, reading practice should be linked to or embedded within the study of subjects including science, history, literature, and the arts. Interpretive strategies that facilitate comprehension—including summarizing, questioning, predicting outcomes, and monitoring one's own understanding—are best used in the service of learning defined curricular

content.¹⁴ Moreover, writing in response to reading is one of the best ways to enhance reading comprehension. 15

2. Language Structure

Expert teaching of reading requires knowledge of language structure at all levels.16 Without such knowledge, teachers are not able to respond insightfully to student errors, choose exam-

Examples of Knowledge of Language Structure and Their Application to Teaching

Selected Concepts and Skills by Domain	Ideas for Application to Instruction
1. Phonetics and Phonology Understand that speech sounds are not letters, and letters do not make sounds—they represent them.	Instead of asking "What sound does each letter make?," use accurate language and focus on a specific sound, asking, "What letter(s) represent /er/ in first?"
Know that consonant and vowel phonemes can be grouped into classes with similar properties (e.g., <i>stops</i> , <i>nasals</i> , etc.).	Help children focus on sounds by saying things like, "ImI, InI, and IngI are the three 'nosey' sounds in English; hold your nose to feel how these sounds go through the nose."
2. Phoneme Awareness Produce speech sounds accurately during reading, vocabulary, and spelling instruction.	Say /t/ crisply, not tuh.
Identify, match, and select appropriate examples of words containing specific phonemes.	In teaching awareness of the phoneme <i>lshl</i> , use words including <i>shoe</i> , <i>chef</i> , and <i>sugar</i> . (Listen for the sound; don't confuse the task with spelling or phonics.)
3. Morphology Identify morphemes (the smallest meaningful units of language) and distinguish them from syllables.	The word interchangeable has five syllables and three morphemes: inter, change, able.
Recognize that spellings of morphemes are often stable even when pronunciation varies in words with a common root; as a result, spelling can be a clue to meaning.	Express, expression; legal, legislate; inspire, inspiration; nature, natural.
4. Orthography Understand that letters and letter combinations (graphemes) represent sounds but are not the same as sounds.	The phoneme /f/ is represented by f, ff (stuff), gh (tough), and ph (phone).
Use a comprehensive scope and sequence that includes instruction in digraphs, blends, silent letter combinations, vowel teams, diphthongs, and the six common syllable types.	Explicit instruction in the written code should extend at least through grade 3 when syllables and morphemes in longer words are tackled.
5. Semantics Teach word meanings in relation to other word meanings.	Include antonyms, synonyms, associations, analogies, and categorical relationships on vocabulary tasks.
Adopt a routine for teaching unfamiliar word meanings to students.	Provide a student-friendly definition, many examples, and opportunities for students to say and use new words.
6. Syntax and Text Structure Appreciate that texts have structures that can be represented with graphic organizers (e.g., narrative and informational texts organized as compare/contrast, argumentation, description, cause/effect, etc.).	Identify and illustrate for students the purpose of a given text and its logical structure.
Identify cohesive devices such as pronoun references, connecting words, word substitutions, parallel sentence structure, and paragraph organization.	Help students identify how a text hangs together and how to follow the connections among ideas as meaning is constructed.

Reading practice should be linked to or embedded within the study of subjects including science, history, literature, and the arts.



ples for concepts, explain and contrast words and their parts, or judge what focus is needed in a lesson. The table on page 8 provides examples of key concepts of language structure and how they apply to instruction.

xperts agree that children who initially are at risk for failure are saved, in most cases, by instruction that directly teaches the specific foundational language skills on which proficient reading depends. 17 Effective teachers of reading raise awareness and proficiency through every layer of language organization, including sounds, syllables, meaningful parts (morphemes), phrases, sentences, paragraphs, and various genres of text. Their teaching strategies are explicit, systematic, and engaging.¹⁸ They also balance language skill instruction with its application to purposeful daily writing and reading, no matter what the skill level of the learner. Middle- and upper-grade children who are weak readers can be brought up to grade level with appropriate instruction (although the time, effort, and emotional strain for children and teachers involved is considerably greater than that required to teach younger children, so offering research-based instruction in the early grades must remain a top priority).

A rich and meaningful curriculum, in which students are exposed to a variety of texts as they learn concepts in science, literature, social studies, history, the arts, and culture, should provide the context for developing reading and writing skills. Comprehension strategies should not be taught in isolation but used as necessary to enhance understanding of text assigned for content learning. Useful comprehension strategies to embed in content reading include prediction of outcomes, summarizing, clarification, questioning, and visualization; these can be modeled explicitly by the

teacher and practiced overtly if students are not comprehending well or if they approach reading comprehension passively. Vocabulary is best taught with a variety of complementary methods, both direct and incidental, designed to explore the relationships among words and the relationships among word structure, origin, and meaning. Of course, children also benefit from access to full libraries and incentives to read independently.

The fact that teachers need better preparation, professional development, and resources to carry out deliberate instruction in reading, spelling, and writing should prompt action rather than criticism. It should highlight the chronic gap between what teachers need and what they have been given. Just about all children can be taught to read and deserve no less from their teachers. Teachers, in turn, deserve no less than the knowledge, skills, and supported practice that will enable their teaching to succeed. There is no more important challenge for education to undertake.

Endnotes

- 1. R. H. Good, D. C. Simmons, and E. Kame'enui, "The Importance and Decision-Making Utility of a Continuum of Fluency-Based Indicators of Foundational Reading Skills for Third-Grade High-Stakes Outcomes," Scientific Studies of Reading 5 (2001): 257–288; and National Assessment of Educational Progress, "Nation's Report Card: How Did U.S. Students Perform on the Most Recent Assessments?," U.S. Department of Education, National Center for Education Statistics, www.nationsreportcard.gov
- National Assessment of Educational Progress, "Nation's Report Card."
- 3. D. A. Kilpatrick, Essentials of Assessing, Preventing, and Overcoming Reading Difficulties (Hoboken, NJ: Wiley, 2015); L. Lim et al., "Using the MULTILIT Literacy Instruction Program with Children Who Have Down Syndrome," Reading and Writing 32 (2019): 2179–2200; P. G. Mathes et al., "The Effects of Theoretically Different Instruction and Student Characteristics on the Skills of Struggling Readers," *Reading Research Quarterly* 40 (2005): 148–182; and J. K. Torgesen, "Avoiding the Devastating Downward Spiral: The Evidence That Early Intervention Prevents Reading Failure," American Educator 28, no. 3 (2004): 6–9, 12–13,
- 4. B. Foorman et al., Foundational Skills to Support Reading for Understanding in Kindergarten through 3rd Grade (Washington, DC: National Center for Educational Evaluation and Regional Assistance, 2016), https://whatworks.ed.gov; and B. Foorman et al., "The Impact of Instructional Practices in Grades 1 and 2 on Reading and Spelling Achievement in High Poverty Schools," *Contemporary Educational Psychology* 31 (2006):
- 5. H. W. Catts, S. M. Adlof, and S. E. Weismer, "Language Deficits in Poor Comprehenders: A Case for the Simple View of Reading," *Journal of Speech, Language, and Hearing Research* 49, no. 2 (2006): 278–293; and P. Gough and W. E. Tunmer, "Decoding, Reading, and Reading Disability," Remedial and Special Education 7, no. 1 (1986): 6-10.
- 6. L. Ehri, "Orthographic Mapping in the Acquisition of Sight Word Reading, Spelling Memory, and Vocabulary Learning," Scientific Studies of Reading 18 (2014): 5–21; and
- 7. L. Ehri et al., "Systematic Phonics Instruction Helps Students Learn to Read: Evidence from the National Reading Panel's Meta-Analysis," Review of Educational Research 71 (2001) 393-447
- 8. K. Cain and J. Oakhill, eds., Children's Comprehension Problems in Oral and Written Language: A Cognitive Perspective (New York: Guilford, 2007); K. Nation, "Children's Reading Comprehension Difficulties," in The Science of Reading: A Handbook, ed. M. J Snowling and C. Hulme (Oxford, UK: Blackwell, 2005), 248–266; and J. Oakhill, K. Cain, and . Elbro, Understanding and Teaching Reading Comprehension: A Handbook (New York: Routledge, 2015)
- 9. F. R. Vellutino et al., "Components of Reading Ability: Multivariate Evidence for a Convergent Skills Model of Reading Development," Scientific Studies of Reading 11, no. 1 (2007): 3-32.
- 10. R. Allington, "What Really Matters When Working with Struggling Readers," The Reading Teacher 66, no. 7 (2013): 520–530; and F. Smith, Unspeakable Acts, Unnatural Practices: Flaws and Fallacies in "Scientific" Reading Instruction (Portsmouth, NH: Heinemann, 2003).
- 11. C. Schatschneider et al., "Kindergarten Prediction of Reading Skills: A Longitudinal Comparative Analysis," Journal of Educational Psychology 96 (2004): 265–282; and Vellutino et al., "Components of Reading Ability.

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The Reading League

Prioritizing Educator Knowledge through Grassroots Activism



By Maria Murray

or 10 years, I was a college professor dutifully checking all the required boxes for both tenure and promotion. I taught classes on reading assessment and intervention, published articles, and gave presentations at conferences and in schools. I was determined that my work might play a part in moving the needle on promoting the science of reading.

The science of reading is a body of empirical research derived from multiple disciplines—cognitive psychology, neuroscience, linguistics, and education. Taken together, the findings from thousands of research studies over the last 40 years have reached a consensus on how the brain learns to read and write, and why some students struggle. The science of reading provides knowledge about the most effective ways to assess and teach reading so we can prevent most reading difficulties, and remediate them when they occur. The science of reading informs instructional approaches that best advantage *all* learners in *all* areas of reading

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(phonological awareness, ¹ phonics,² vocabulary,³ spelling,⁴ and language comprehension⁵). (For more on each of these areas, see the articles on pages 4, 13, 18, and 22.) Contrary to commonly held beliefs, it is *not* just about phonics.

I knew this reading research well because I had learned its principles during my master's and doctoral work under the tute-lage of my advisor and mentor, Benita Blachman, who was at the forefront of researching phonological awareness, as well as how to prevent and remediate reading difficulties. I was also fortunate to coordinate some of the National Institute of Child Health and Human Development reading intervention studies Blachman conducted. During this time, I came to know some of the world's finest reading research scientists, and I learned how the scientific process of investigating reading works.

Challenges Implementing the Reading Research

Perhaps the most valuable part of coordinating those studies was training the teachers participating in the research on how to deliver the instructional approaches we were studying. I met educators who were so dedicated and successful in teaching their students to read that it made a significant impression on me. I saw that it could be done—not just by researchers—but by teachers in classrooms.

The students in our studies often came from disadvantaged and underserved populations. The schools did not have a lot of

Our root system is deep and grounded in our mission to support educators in developing their understanding of the science of reading.

money. Yet, the students who received the interventions learned to read at higher rates because their teachers had access to knowledge about how to most effectively teach them. We conducted a follow-up study more than a decade later and saw that data related to educational outcomes, such as high school completion, favored those who had received the interventions.7

District leaders did not receive the same knowledge that the teachers had acquired. The decision makers in the districts where we did this research chose to have teachers discontinue the more effective approaches and return to business as usual after the studies ended (a very common problem in the research community). It was devastating to hear that the teachers who had been so excited about their learning were mandated to use approaches that were popular, expensive, and far less effective. What had worked was gone.

It did not take long before I felt that so much of my teaching, publishing, and presenting was akin to sweeping the ocean with a broom. A 15-week semester to cover the many aspects of the science of reading is not enough time to present the material with the depth needed to make it stick. Teacher preparation programs typically offer only two to three classes in how to teach literacy.8 In some instances, my students attended other classes in which the content contradicted what I was teaching. My students were being hired in schools that did not practice what I had taught them. As novice, untenured teachers, even the graduates who did retain what they had learned about the science of reading were powerless and afraid to apply their knowledge, lest they disrupt the status quo and be seen as troublemakers.

I received numerous emails from previous students once they began teaching. Their inquiries confirmed that even if knowledge of the science of reading is taught in university classes, it will likely melt away if the schools in which graduates are hired do not embrace it. Here is just one example from one of my graduates who had been hired to teach fourth grade:

I'm wondering if you could assist me with phonics administration with my students? I have a handful of students who are having trouble with letter sounds and blending words together with letter sounds and was wondering if you had any suggestions on what to do or how I can help them. I also wondered if you knew any websites that might have worksheets on comprehension to have students work with as well?

Fourth-graders who had difficulty blending sounds together to read words could not be helped by me emailing a few suggestions. This novice teacher had forgotten (understandably) what she had learned in my class and was not receiving professional development derived from the science of reading from her district. The desperation to ask for comprehension websites and worksheets was disheartening. It became crystal clear that my students would rarely use what I taught them, either because they did not retain the content or because school conditions would not be able to support them in applying it.

I very seriously considered abandoning education altogether. It felt ethically wrong to continue taking part in a system that was part of the problem. It felt morally irresponsible to ignore the reality that there are children and adults in this world burdened by low literacy for one unacceptable reason—they had not been properly taught. There seemed no way for me to reconcile working in the world of education with not being able to make use of my knowledge that scientists had discovered some pretty impressive solutions that had worked in hundreds of studies.9

Starting a Movement

In 2015, after speaking with a friend in a similar situation, I had an epiphany. During my career, I had come to know dozens of people who were experiencing similar frustration. Why were we all functioning in isolation? On a whim, I reached out for people to join me with a long-winded Facebook post on October 13, 2015. Here is a shortened version:

The evidence of what works for those who have difficulty learning to read has been around for decades. For a multitude of reasons, it is misconstrued or ignored or unknown. Special education and remedial reading efforts have not been effective in closing the gap. So many stakeholders can come together to build awareness and disseminate knowledge. Power in numbers: parents, teachers, administrators, school psychologists, researchers, professors, members of similar organizations, and more. I know a lot of you. Would you join? Truth be told—we owe this to the children who grow weary of frustration and discouragement. We really do. I propose monthly meetings for a few hours with a particular stakeholder providing voice at each one, plus some joining of minds and efforts to get the knowledge out there. Are you in?

It was time to harness the energy of many like-minded people who had long been living the experiences of trying to combat low literacy rates in our country and beyond. It turns out that this is the recipe for creating a successful social movement.10

And so, The Reading League was born. Its first official meeting was a gathering of eight people at a local restaurant. Our original

intent was to band together the time, talents, expertise, and sheer will of many dedicated and diverse individuals to support Central New York educators in building their knowledge of the science of reading. We imagined we would rent a community bingo hall once in a while and maybe 40 or 50 teachers would come. We planned to take turns



Our branches are wide-reaching because educators are committed to the lifelong learning necessary to ensure that their students reap the benefits of a literate life.



and provide educators with free professional development that was peer reviewed and of the highest possible quality. We created a survey to learn what topics they wanted us to focus on (turns out there were almost 30, including fluency, morphology, and assessment, to name a few). Perhaps we could give the science of reading some traction in our region's districts by regularly attracting educators who wanted to learn more about how to leverage the evidence base and improve their students' reading achievement.

For our first live event, 130 educators braved a Syracuse snowstorm in the dark to attend—far exceeding our expectations. Within a year, each event filled to capacity within a few hours of being advertised. Waiting lists began to exceed 200 names, and people drove for hours to attend. Since then, thousands of people from diverse professional backgrounds, including parents, have enthusiastically supported The Reading League's mission.

The purpose of this nonprofit organization is to increase the awareness, understanding, and use of evidence-aligned reading instruction. We are classroom teachers, professors, researchers, administrators, school psychologists, speech and language pathologists, professional development experts, parents, dyslexia advocates, linguists, and more. We know that the current, most popular instructional approaches to reading have not raised reading proficiency rates for decades, and that far too many educators have been sidelined from learning about the most effective approaches that are grounded in the science of reading.

Teachers, who comprise a majority of The Reading League's core membership of 15,000 to date (with members from several countries around the world), frequently report that they are stunned that they had been practitioners of education without ever encountering the science of reading. They can become overwhelmed when they realize what they have to unlearn and relearn.

They are always elated to find important answers to questions they have been asking for years. They often feel guilty thinking that they could have taught their prior students to read better. We tell them that any guilt they feel is not theirs to own. We all must move on and exemplify lifelong learning—within a community network that is safe, respected, and impactful. As a social movement builds, the power is in its champions, and these educators have become just that.

What specifically does The Reading League do? It builds the understanding of evidence-aligned reading instruction and its application with a variety of supports for educators as they build their knowledge and professional networks around the science of reading. The Reading League offers:

- Professional development partnerships with schools.
- The Reading League Journal, edited by Louisa C. Moats (whose article begins on page 4 of this issue), with subscriber-exclusive benefits.
- An annual conference.
- Live events five times per year at our headquarters in Syracuse, New York, with the option to attend in person or virtually.
- Courses at our headquarters.
- Speaking engagements at conferences and professional learning events.
- 100-plus hours of free professional development content on our YouTube channel.
- A knowledge-based resource page on our website, www.the readingleague.org.
- Bustling social media accounts.
- State chapters of The Reading League.
- Partner alliances with similar organizations.

he Reading League began as my seed of hope. It was nurtured by the tireless work and passion of family, friends, and colleagues. Our root system has become deep, strong, and firmly grounded in our mission to support educators in developing their awareness, understanding, and use of the science of reading.

Our branches are wide-reaching and fruitful because educators are committed to the lifelong learning necessary to ensure that their students achieve their potential and reap all the benefits of a literate life. The branches have served to create a vast network of members and allies who understand that when two-thirds of a nation's students are not reading proficiently, 11 providing the best instruction for all of them is a matter of social justice. We invite you to join us.

Endnotes

1. A. Kjeldsen et al., "Gains from Training in Phonological Awareness in Kindergarten Predict Reading Comprehension in Grade 9," Scientific Studies of Reading 18, no. 6 (2014): 452-468.

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Limiting Children to Books **They Can Already Read**

Why It Reduces Their Opportunity to Learn



By Timothy Shanahan

ifty years ago, when I was becoming a teacher, reading instruction consisted of a ubiquitous classroom practice: placing students in instructional groups according to their reading level. These groups were sometimes known by various colors or animals. I distinctly remember the redbirds, the bluebirds, and the buzzards among the most popular appellations. Today, although groups are now labeled with letters (Level G, Level L, etc.) and ornithological monikers are out of fashion, assigning students to instructional groups according to their reading levels is still a common practice in classrooms across the country.

A recent survey aimed at identifying the most popular current programs used to teach reading found that one common feature of all the top sellers was that they organize their teaching around leveled books. Other recent surveys show that teaching reading

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with leveled books is on the increase and that teachers believe it is endorsed or supported by their state educational standards,² though, in most cases, it is not.

But how effective is such teaching? Does it work?

On the surface, those are easy questions. Leveled readers obviously work. Most American students are learning to read, at least at basic levels,3 and since most are being taught with leveled books, there must be some potency in the approach.

But the real question isn't whether children can learn from leveled books, but whether such leveling confers any learning advantages. Might students do even better if taught with books they can't already read so well? That's the real question. In this article, I examine the research on leveled reading approaches and offer more effective ways that classroom teachers can ensure their students acquire the skills and knowledge they need to not only read a text but also comprehend it. First, I provide a brief history lesson in how we got here.

Teaching with Gradually More Difficult Texts

The idea of testing students to place them in different levels of text for instruction was first recommended more than 100 years ago,4 and an early survey indicated that 58 percent of primary-grade reading instruction was already being delivered in small abilitybased groups and that 42 percent of the teachers were adjusting text levels to facilitate learning.5 They may not have referred to

Despite the current popularity of leveling, research evidence has not been especially supportive of the approach.



these texts as "leveled readers," and no company that published basal readers had yet coined the term "guided reading," but the practices of that time were markedly similar to those of today.

During the 20th century, research identified text features that correlate with reading comprehension,⁶ and publishers started to control these features to a degree previously unimag-

ined. One reading program I remember from my childhood bragged that it never introduced more than one new word per page, and any word that was introduced was repeated 15 times over the following pages. That's why those texts could be so mind-numbingly repetitive: "Oh. Oh. Oh. Look, Jane, look." If learning to read meant learning words—and at least since the time of Horace Mann that's been an idea held by many—then the accumulation of words gradually from selection to selection was how someone would best advance in learning to read.

But such tight readability controls made beginning reading texts so artificial that they eventually elicited an adverse reaction. The most remarkable of these reactions was the adoption of "whole language" policies by California in the 1980s. These reforms required that the texts used to teach reading not be designed for reading instruction, and severely limited the text revisions that could be made for pedagogical purposes. What this meant was that for a brief period of time, even the beginning reading materials got much harder,8 perhaps so hard for beginning readers that they represented a significant impediment to learning.9 If the old basal readers were easier than necessary, these new books were decidedly too hard for the beginners, and they provided teachers with little or no guidance on how to teach with texts that the older students couldn't read successfully on their own. Exacerbating the effects of these harder books was that California's policies simultaneously discouraged phonics and spelling instruction that could have helped students to better read the challenging materials, and the term "whole language" often came to mean "whole class" instruction in many schools. 10 Perhaps the thinking was, why group for instruction if nobody could read the books anyway?

It was in this environment that Irene Fountas and Gay Su Pinnell published their landmark book in 1996, *Guided Reading: Good First Teaching for All Children*. There was nothing terribly original in their presentation, but they rediscovered and championed a set of teaching procedures that in the not-too-distant past had been widely used to facilitate reading instruction. They recognized that texts varied in difficulty and that one could guide student progress successfully across a gradually harder progression of books. To do this successfully, they asserted that teachers

would need to group children, matching different books to students based on their varied levels of reading. Their approach offered immediate relief for those beginning reading classes where easier books made sense, but even in the grades beyond, the shift was welcome because of the lack of any pedagogical support for teaching challenging books. Fountas and Pinnell's approach, although reminiscent of earlier popular instructional practices, differed from them in one important regard: because of the burgeoning availability of high-quality children's trade books, they could propose doing this without textbooks.

In the Fountas and Pinnell version of guided reading, teachers assess students to determine their reading levels and then assign them books that they can read with a high degree of accuracy and comprehension. Over time, if retesting shows improvement, the students are switched to more demanding books. When it doesn't work so well, students may languish for long periods at their current levels. Such languishment has been enough of a problem that in the second edition of their book, they recommend moving students up sometimes even when the testing shows no evident improvement. (This seems to me like a judicious amendment to the original plan, but it raises the question about why these students can be expected to learn from the harder books when it is assumed that no one else would be able to.) Currently, this approach to reading, in which leveled books are matched to student reading levels for reading instruction, predominates in U.S. classrooms.

Determining Text Levels

There are basically two ways to determine how difficult texts may be and to set their levels: quantitative readability measures and qualitative judgments about texts. Although they approach the task differently, the purpose of both is to array texts on a continuum of difficulty.

The quantitative study of readability identifies text features that may affect comprehension and then tries to array these features in an algorithm that will allow accurate predictions of text difficulty. It turns out that accurate predictions can be obtained with only two text variables: vocabulary and sentence complexity. Such formulas are imperfect, but reasonably accurate. They aren't able to make fine distinctions, and until recently, haven't been able to measure beginning text levels very well. Nevertheless, quantitative readability algorithms are able to provide a largely reliable and accurate scientifically derived text gradient.

Still, it is important to remember that readability was not developed to match books to students in a way that would facilitate learning. Readability measures predict comprehension, not reading progress. The idea of using these kinds of measures to establish which books would best promote learning to read came later.

With the advent of computer technology, readability measurement has improved. The newer readability measures that have emerged are now widely used by researchers and publishers and were employed by the Common Core State Standards to specify

Instead of a steady diet of instructional-level texts, students should be reading a range of texts in their classrooms.

text level aspirations for the various grade levels. Despite all this, when teachers speak of "leveling" books, they are most likely referring to Fountas and Pinnell levels.

Researchers provide a useful history of the development of this qualitative leveling system. ¹² Basically, an early version of the approach was developed for use with Reading Recovery, ¹³ a short-term reading intervention for first-graders who have difficulty learning to read, and Fountas and Pinnell refined and expanded this system to apply to texts from beginning readers through eighth-grade texts. Texts are evaluated by judges who place them on a multipoint continuum (from A to Z) based on 10 criteria: genre/forms, text structure, content, themes and ideas, language and literary features, sentence complexity, vocabulary, words, illustrations, and book and print features. ¹⁴

No studies have evaluated the reliability of these judgments, but a couple of small studies suggest that the Fountas and Pinnell gradient correlates reasonably well with the better-validated quantitative readability measurements. ¹⁵ Publishers have now leveled tens of thousands of books using this scheme. But given its complexity—the simultaneous qualitative evaluations of 10 factors with no explicit prioritization rules—it is unclear how accurate these levels may be (a point Fountas and Pinnell themselves make ¹⁶). Clearly, this approach lacks the scientific rigor of the quantitative approaches and may result in varied book placements depending on who makes the judgments. But until more evidence is available, let's at least for the sake of argument accept that these levels are sufficiently accurate to consider their use.

To sum up, there are two approaches to setting text levels—one based on a great deal of scientific evidence and one less well understood. Nevertheless, existing data suggest that both can place texts on a reasonable comprehensibility continuum, from easy to difficult. The problem is that research does not support the idea that either approach can identify from which texts students will learn best. The point of leveling is both to establish a text gradient and to place students in the appropriate text along that gradient. The latter is the issue to which we now turn.

Book Levels That Promote Learning

More than 70 years ago, Emmett Betts published an influential textbook on the teaching of reading. ¹⁷ Betts claimed all readers have three reading levels: independent, instructional, and frustration. According to Betts, the independent level refers to texts that readers can handle on their own without assistance. Instructional-level texts are a bit harder, but not so hard that students can't improve their reading from working with them under the guidance of a good teacher. And, frustration level? These books would be so difficult that learning would be unlikely even with supportive teaching.

Betts wrote that the way to determine these levels was to have students read from the books aloud and answer comprehension questions. Instructional-level texts, according to Betts, were those that could be read with 95–98 percent accuracy (in terms of word reading) and understood with 75–89 percent comprehension—the criteria that continue to be used today. Instructional-level texts generate small numbers of mistakes and misunderstandings, which can then presumably be addressed successfully through instruction and practice. Betts claimed that research supported the idea of matching books to students in this way to optimize learning. This instructional-level scheme is what is used today in most popular reading programs.



It's easy to understand why someone might propose (or adopt) such an approach. It is incredibly frustrating when students can't read a text very well. At a time when teachers were limited to one grade-level text for reading, there would be plenty of students who wouldn't be able to read it proficiently. Under those circumstances, teachers would gladly embrace the idea of working only with books that children could already read well. But as gratifying as the idea of teaching students at their instructional levels may have been, there are legitimate questions about the degree of effectiveness of this approach. When there is so little to learn from a particular text, it is possible that progress will be needlessly slow moving.

Despite Betts' original claims and the current popularity of leveling, research evidence has not been especially supportive of the approach. The study Betts referred to as the source of the instructional-level criteria was a doctoral dissertation of one of his students, ¹⁸ and that study neither matched books to students for instruction nor evaluated learning. Betts' doctoral student simply checked to see how many oral reading errors fourth-graders could make and still maintain 75–89 percent reading comprehension; that was the source of the 95–98 percent accu-

At the end of the school year, the students placed in books above their instructional level made significantly bigger learning gains.

racy criterion. Years later, the researchers were questioned about the source of comprehension numbers, and they couldn't remember from whence those had come. 19 Not a very substantial basis for such a widely recommended instructional practice.

In the 1960s and 1970s, William Powell challenged Betts' criteria, though he fully accepted the kind of evidence Betts had used to set them.²⁰ Powell thought Betts got the numbers wrong. To that end, he conducted studies in which children from grades 1-8 were evaluated in much the same way as in Betts' doctoral student's study. Powell found a couple of interesting things. He reported different instructional levels for different grades; that is, some children could tolerate more disfluency and still comprehend what they were reading. He also reported that some students could tolerate quite a bit of disfluency, suggesting Betts was placing students in books that were too easy.

Later, another study tested how well second-graders could read the books they were taught with, and then measured how much they learned. The researcher found that texts that could be read with about 85 percent accuracy and less than 50 percent comprehension led to the biggest learning gains. In other words, students learned more from books that were at their "frustration levels."

Over the past few decades, there have been several direct tests of the instructional level, and these have all ended with one of two outcomes. Instructional-level texts either have provided no learning advantages or have done harm. One example of the latter is another study with second-graders.²¹ This study was the first randomized control trial of this practice. Students were tested and, using Betts' criteria, randomly assigned to one of three treatments. One group worked with texts at their instructional levels, one worked with texts two grades above this, and the third worked with books four grades above. Students read in



pairs, practicing reading fluency with a partner. At the end of the school year, the students placed in books above their instructional level had made significantly bigger learning gains than those placed in the books supposed to facilitate their learning. This study was later replicated with third-graders.²² Other studies again found big learning advantages from working with books at the children's grade levels rather than reading levels.²³ Even students with learning disabilities have been found to obtain no benefit from these text placements.24

Betts saw a problem—students being taught from books that many couldn't read—and he proposed a solution, moving students to books that they could. Another solution, one he apparently didn't entertain, was that teachers could adjust their instruction in particular ways to facilitate students' interactions with these hard-to-read books. As a recent study found—this one with high school students-most students who were asked to read grade-level materials were able to learn more than those placed in the easier books.25

Basically, what this research reveals is that limiting students to texts they can already read well reduces their opportunity to learn—by limiting their exposure to sophisticated vocabulary, rich content, and complex language. With knowledge of the research on effective reading instruction, skilled teachers can facilitate students' productive interactions with harder text.

But what has happened since states started requiring that students be taught to read more challenging text?

In 2010, the majority of states adopted the Common Core State Standards. These standards, for the first time ever, set text levels that students were supposed to be able to read by the time they reached particular grade levels. The levels were set high to enable students to reach levels of proficiency that would ensure later life success.

States may have thought they had accomplished something pretty big by adopting those standards, and likewise district administrators may have thought they had dealt successfully with the complex text requirements when they purchased new textbooks matched to these new requirements. However, according to national surveys,²⁶ all that has happened is that teachers, seeing that more of their students are now struggling with these newer texts, have increasingly relied on the idea of instructional-level teaching, and more and more are placing students in below-grade texts for reading instruction.

A More Effective Approach

As a teacher, I always taught with leveled books and worked hard to match texts to students in the ways described here. However, as I've learned of the research, I've gone a very different way except with beginning readers. I know of no studies with kindergartners or first-graders showing that they should be trying to read particularly demanding texts (in contrast, there is a benefit to teachers reading aloud demanding texts to build young children's knowledge and vocabulary).

With research on effective reading instruction, teachers can facilitate students' productive interactions with harder text.

I've come to think of reading as the ability to make sense of the ideas presented in text, by taking advantage of the affordances and overcoming the barriers included in the text. Learning to read means becoming aware of these text features—and learning how to deal with them. Instructional-level texts are usually too easy to provide students with the opportunities to confront text features that they cannot already manage.

Affordances or barriers—and these are basically the same things—are features that authors build into their texts to facilitate communication. A particular text feature serves as an affordance if it does that, and—for some readers—it may serve as a barrier to understanding. For example, an author might aim for clarity and accuracy through apt diction, and for readers who know the meanings of the words so chosen, this can be a powerful text affordance. But for readers with more limited vocabularies? That potential affordance may become an unfortunate barrier for them.

It's not, however, as simple an equation as instructional-level theory makes out. It is not that some students have better vocabularies, so we should let them work with the relatively difficult books (the ones with the rich content and complex language), and that the other students-those who know fewer words-should be segregated into easier and more limited texts. That approach can have some unfortunate implications for students who are minorities and those from low socioeconomic backgrounds.²⁷

What if, instead of segregating them into what some students call the "stupid books," we placed them in books with demanding vocabulary and taught dictionary skills, use of context, and morphology? What if we taught them when it was essential to figure out an unknown word meaning and when they might be able to soldier on successfully without doing that?

And, of course, vocabulary is just one of many such text features. Studies have long shown that teaching students how to disentangle the grammar of some sentences,28 how to take advantage of the cohesive links across a passage, 29 and how to identify and use a text's organizational structure³⁰ all can improve reading comprehension. Teaching students to negotiate these features of a text only makes sense if students are to be confronted by challenging texts, and none of them have value for students reading, what for them, are easy books.

f we are serious about raising reading achievement, we must think hard about whether it makes sense to continue teaching students to read books they can already understand so well. These easier books make learning unnecessary and, without adequate challenge, may even drain the fun out of learning. That doesn't mean that every selection used for reading instruction must significantly challenge students, only that grade-level texts should be part of the instructional mix.

Instead of a steady diet of instructional-level texts, students should be reading a range of texts in their classrooms. Some proponents of leveled reading claim they too support this idea, but

they propose that instructional-level texts should be the focus of small-group teaching. I recommend just the opposite, having students reading really demanding texts when the teacher is close by and ready to help, and less demanding ones when on their own or when a teacher just isn't going to be available.

But this is not just an avenue to higher achievement (though research suggests that it could be), it is also an issue of equity. If fourth-graders are taught from a second-grade book, when will they have the opportunity to confront the language and ideas of fourth-grade books? This is a cruel math problem that tells stu-

dents they are best served by books that don't match their interests, their curiosity, or their social aspirations. Leveled reading emphasizes students' current limitations, rather than increasing their possibilities, especially for the least advantaged of our students. We can do better.



Endnotes

- 1. S. Schwartz, "The Most Popular Reading Programs Aren't Backed by Science," Education Week, December 3, 2019.
- 2. D. Griffith and A. Duffet, Reading and Writing Instruction in America's Schools (Washington, DC: Thomas Fordham Foundation, 2018); and J. Kaufman et al., Changes in What Teachers Know and Can Do in the Common Core Era (Santa Monica, CA: RAND Corporation, 2018).
- 3. National Assessment of Educational Progress, Results from the 2019 Mathematics and Reading Assessments (Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2019).
- 4. L. Zirbes, "Diagnostic Measurement as a Basis for Procedure," Elementary School Journal 18, no. 7 (1918): 505-522
- 5. W. Theisen, "Provisions for Individual Differences in the Teaching of Reading," Journal of Educational Research 2, no. 2 (1920): 560-571
- 6. G. Klare. The Measurement of Readability (Ames. IA: lowa State UP, 1963)
- 7. California State Board of Education, English-Language Arts Framework for California Public Schools, Kindergarten through Grade 12 (Sacramento, CA: California State Department of Education, 1987)
- 8. E. Hiebert, "Changing Readers, Changing Texts: Beginning Reading Texts from 1960 to 2019," Journal of Education 195, no. 3 (2015): 1-13.
- 9. E. H. Hiebert and C. W. Fisher, "The Critical Word Factor in Texts for Beginning Readers," Journal of Educational Research 101, no. 1 (2007): 3-11.
- 10. P. Pearson, "The Reading Wars," Educational Policy 18, no. 1 (2004): 216-252.
- 11. A. Stenner et al., "How Accurate Are Lexile Text Measures?," Journal of Applied Measurement 7, no. 3 (2006): 307-322
- 12. P. Pearson and E. Hiebert, "The State of the Field: Qualitative Analyses of Text Complexity," Elementary School Journal 115, no. 2 (1991): 161–183
- 13. B. Peterson, "Selecting Books for Beginning Readers: Children's Literature Suitable for Young Readers," in *Bridges to Literacy: Learning from Reading Recovery*, ed. D. DeFord, C. Lyons, and G. Pinnel (Portsmouth, NH: Heinemann, 1991), 119-147.
- 14. I. Fountas and G. Pinnell, "Guided Reading: The Romance and the Reality," Reading Teacher 66, no. 4 (2012): 268-284
- 15. J. Hoffman et al., "Text Leveling and Little Books in First-Grade Reading," Journal of Literacy Research 33 (2001): 507–528; and P. Hatcher, "Predictors of Reading Recovery Book Levels," Journal of Research in Reading 23 (2000): 67-77.
- 16. Fountas and Pinnell, "Guided Reading."
- 17. E. Betts, Foundations of Reading Instruction (New York: American Book, 1946).
- 18. P. Killgallon, "A Study of Relationships among Certain Pupil Adjustments in Language Situations" (unpublished PhD diss., Pennsylvania State University, 1942).

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Building Knowledge

What an Elementary School Curriculum Should Do



By Natalie Wexler

espite billions of dollars and massive efforts on the part of thousands of highly dedicated and intelligent people over the past 25 years, the size of the test-score gap between the wealthiest and the poorest students hasn't changed.1 Our mediocre standing on international literacy rankings is largely a reflection of how low our lowest scores are.2 Teachers in high-poverty schools in Washington, D.C., have told me they've had students at all levels of ability, including the highest, but some of their stories were deeply disturbing.

Their high school students often lack a sense of chronology, they said. Students may confuse the Civil War and the civil rights movement. They may think Frederick Douglass and Martin Luther King Jr. were contemporaries. In a world history class studying the segregation faced by black soldiers returning to the United States after World War I, some students were under the impression that slavery still existed in 1918. In a course on the United States after the Civil

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War, the teacher couldn't assume that students knew what happened before that war, even though they had already taken a class that covered it. "You have to start with: there was a War of Independence," she said, "and this is who we won our independence from."³

Others told me their students don't understand the difference between a country and a continent, or between a city and a state. One kid in an SAT prep class—one of the better students, according to his teacher, who cited the fact that "he could place the United States on a world map"—was surprised by the term South *America* when he saw it on a map, apparently for the first time: How could it be called America if it wasn't in America?4

Another high school teacher said she's even had a few students who don't know the name of the country they live in. "They think Washington, D.C., is their country," she said.5

Urban school systems have been faced with the impossible task of turning ninth-graders who arrive with gaps like these into "college- and career-ready" graduates in four years—and threatened with consequences under federal law if graduation rates dip below 67 percent. For a while, the threats appeared to be working: in 2016, the national graduation rate reached an alltime high of more than 84 percent. ⁶ But within months, it became clear that some urban school systems had turned to subterfuges.7 These included having students pass courses by taking far less rigorous online versions and changing attendance records. In Washington, D.C.—a city that many reformers have

Children need to stick with a topic for days or weeks, encountering the same vocabulary and concepts repeatedly.

pointed to as a model, and where the graduation rate rose 20 points in six years—an investigation revealed that a full third of the 2017 graduates hadn't met requirements.⁸

These problems don't end at high school. Studies suggest that students with low test scores are less likely to pursue higher education, obtain and keep jobs, provide for their families, exercise their civic rights and responsibilities, and lead fulfilling lives. Education is supposed to enable everyone to do those things. It represents our best hope for breaking the cycle of multigenerational poverty. Really, it's our *only* hope.

And it's not working. Socioeconomic inequality in the United States is on the rise. ¹⁰ Many students proudly enroll in college—the surest route to success—only to discover they're so ill-prepared they need to take remedial reading and math. The vast majority of lower-income students never manage to get that coveted degree. ¹¹

Knowledge Makes a Difference

In 1987, two researchers in Wisconsin, Donna Recht and Lauren Leslie, conducted an experiment that shed some light on the roots of many of the problems that afflict our education system—and especially the gap in test scores between students at the top and bottom of the socioeconomic scale. They constructed a miniature baseball field, ¹² installed it in an empty classroom in a junior high school, and peopled it with four-inch wooden baseball players arranged to simulate the beginning of a game. Then they brought in 64 seventh- and eighth-grade students who had been tested both for their general reading ability and for their knowledge of baseball.

The goal was to determine to what extent a child's ability to understand a text depended on her prior knowledge of the topic. Recht and Leslie chose baseball because they figured lots of kids in junior high school who weren't great readers nevertheless knew a fair amount about the subject. Each student was asked to read a text describing half an inning of a fictional baseball game and move the wooden figures around the board to reenact the action described.

Churniak swings and hits a slow bouncing ball toward the shortstop, the passage began. Haley comes in, fields it, and throws to first, but too late. Churniak is on first with a single, Johnson stayed on third. The next batter is Whitcomb, the Cougars' left-fielder.

It turned out that prior knowledge of baseball made a huge difference in students' ability to understand the text—more of a difference than their supposed reading level. ¹³ The kids who knew little about baseball, including the "good" readers, all did poorly. And among those who knew a lot about baseball, the "good" readers and the "bad" readers all did well. In fact, the bad readers who knew a lot about baseball outperformed the good readers who didn't.

In another study, researchers read preschoolers from mixed socioeconomic backgrounds a book about birds, a subject they had determined the higher-income kids already knew more about. When they tested comprehension, the wealthier children did sig-

nificantly better. But then they read a story about a subject neither group knew anything about: made-up animals called *wugs*. When prior knowledge was equalized, comprehension was essentially the same. ¹⁴ In other words, the gap in comprehension wasn't a gap in skills. It was a gap in knowledge.

The implication is clear: abstract "reading ability" is largely a mirage constructed by reading tests. A student's ability to comprehend a text will vary depending on many factors, prime among them being his familiarity with the topic. While instruction in the early grades has focused on "learning to read" rather than "reading to learn," many educators have overlooked the fact that part of learning to read is acquiring knowledge.

Research has established that one aspect of reading does need to be taught and practiced as a set of skills, much like math: decoding, the part that involves matching sounds to letters. (For more on decoding, see the article on page 4.) The problem is that the other aspect of reading—comprehension—is also being taught that way. The prevailing approach is to focus on skills and strategies such as "finding the main idea" and "making inferences," with students practicing the skills on books on random topics that have been determined to match their individual reading levels. While there's plenty of evidence that *some* instruction in *some* comprehension strategies can be helpful for *some* children, there's no reason to believe it can turn struggling readers into accomplished ones.

That's particularly true when it comes to nonfiction, which generally assumes more specialized background knowledge. To acquire the knowledge and vocabulary that will help them understand nonfiction, children need to do more than read a single book on a topic before skipping to another one while practicing how to identify text features or determine text structure. They need to stick with a topic for days or weeks, encountering the same vocabulary and concepts repeatedly so they will stick.¹⁵

It's not so much that particular bits of information are vital in and of themselves—although some certainly are. It's more that people need to have enough facts in their heads to have what one commentator has called "a knowledge party" bunch of accumulated associations that will enable them to absorb, retain, and analyze new information. Education certainly shouldn't end with facts. But if it doesn't begin there, many students will never acquire the knowledge

and analytical abilities they need to thrive both in school and in life.

Vocabulary Is Essential, but Not Enough

It's not that educators are unaware of the importance of knowledge and vocabulary. One frequently taught reading comprehension strategy is "activating prior knowledge." If the story is about a trip on



It's crucial to envelop students from less-educated families in a knowledge-building environment as early as possible.

an airplane, for example, the teacher might ask kids if they've ever taken one. And if a text assumes knowledge many students don't have, he might quickly supply it. But that kind of on-the-spot injection of information is unlikely to stick without reinforcement.¹⁷

Teachers are more likely to be aware of the need to build students' vocabulary rather than their knowledge; those gaps are more obvious, and more research has been done on the importance of vocabulary to comprehension. To be sure, it's important to focus on words that are used frequently in academic writing but are unlikely to be acquired through spoken language—words like *merchant*, *fortunate*, and *benevolent*. But it's impossible to equip children with all the vocabulary they need by teaching it to them directly. During the first several years of schooling, children add eight words a day to their vocabularies, on average; the only way to expand vocabulary that quickly is to expand knowledge. A single word is often just the tip of an iceberg of concepts and meanings, inseparable from the knowledge in which it is embedded. If you understand the word *oar*, for example, you're probably also familiar with the concepts of rowboats and paddling.

But building knowledge is trickier than teaching vocabulary. Teachers sometimes overestimate what children already know: I watched a class of second-graders struggle for half an hour through a text about slavery before their teacher realized they didn't understand the word *slavery*. Kindergartners in one low-income community had an average score in the fifth percentile on a vocabulary test, ²⁰ which reflected their inability to identify pictures showing the meanings of words like *penguin*, *sewing*, or *parachute*, and educators have told me of students who don't know simple words like *behind* and *bead*.

At the same time, teachers can *underestimate* students' capabilities. In addition to limiting children to books at their supposed levels, they may explain an entire text in simple language before reading it aloud, thus depriving students of the chance to wrest meaning from complex language themselves. (For more on misconceptions about reading levels, see the article on page 13.)

"I believe what everybody believes," said one fifth-grade teacher at a high-poverty school in Nevada. "I don't mean to believe it, but it gets into you—this idea that certain learners are less capable of engaging with certain content. And I think that we've been making a lot of mistakes based in compassion for our students.... We make this great effort to smooth the road for them."

After experimenting with a text she was sure would be too challenging for her students—and being surprised by how well they did—she came to realize that she'd been doing them a disservice. "Unless they learn to navigate the bumps," she said, "we're not teaching them to be thinkers or readers." ²¹

Knowledge Is Like Velcro

There are multiple reasons that children from less-educated families arrive at school with less knowledge and vocabulary than their peers from highly educated ones—many having to do



with wealth and income, which are highly correlated with levels of education. Children who live in poverty are far more likely to suffer the consequences of traumatic events that can interfere with their ability to learn.²² Wealthier parents are better able to invest in their children;²³ that can mean anything from buying more books to paying for tutoring or extracurricular activities.

In recent years, the difference between what lower- and higher-income parents spend on their children has increased dramatically. In 1972, the wealthiest Americans were spending five times as much per child as the lowest-income families. By 2007, parents at all economic levels were spending more on their children, but the highest-income families were spending *nine* times as much.²⁴ As "human capital"—skills and education—has become increasingly vital to success, families in the top 20 percent have invested more heavily in ensuring their children can compete. It's become increasingly difficult for the bottom 80 percent to keep up.

Poor and working-class families are also more likely to practice "natural growth" parenting, according to sociologist Annette Lareau, allowing their children lots of unstructured time and tending to give directions rather than soliciting opinions. Middle-class and affluent families, on the other hand, generally practice "concerted cultivation": driving their kids to soccer practice and band recitals, engaging in family debates at dinnertime, and encouraging independent thinking. Each parenting style has its advantages, but the concerted cultivation kids are better equipped to do well in school.²⁵

And then there's language. Children whose parents read to them frequently become familiar with the sophisticated vocabulary and syntax that appears in written rather than spoken language. ²⁶ Talking is important too. One much-publicized study

Young children need to listen to their teachers read more complex books aloud and engage in discussions about what they've heard.

published in the 1990s estimated that high-income children hear 30 million more words than low-income children by age 4.27 Recent research has called that estimate into question and focused instead on the number of "conversational turns," or backand-forth verbal interactions, between parents and children; the more conversational turns, the better a child's language skills.²⁸ And—although the ubiquity of cell phones and other screens has interfered with conversational turns across the spectrum—on average, higher-income families engage in more of them.²⁹

Less-educated parents are also less likely to use complex vocabulary in conversation, and teachers may not be exposing students to it either. One study found that children living in high-poverty neighborhoods get "a double dose of disadvantage" as compared to their higher-income peers: the language they hear is less sophisticated both at home and at school. While these children "may have unique linguistic strengths that serve them well in their immediate settings," they were less likely to have the language skills that would enable them to do well academically.30

Whatever the causes, it's clear that children with certain risk factors begin school with skills that may be almost a year behind those of their peers.³¹ And the gap only widens over time.³² The more knowledge a child starts with, the more likely she is to acquire yet more knowledge. She'll read more and understand and retain information better, because knowledge, like Velcro, sticks best to other related knowledge.

This phenomenon of snowballing knowledge accumulation by kids who start out with more—while those who start out with less acquire less—has been dubbed "the Matthew effect."33 That's a reference to a line in the Gospel according to Matthew—"For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath": or, "the rich get richer and the poor get poorer." And the longer the Matthew effect is allowed to continue, the harder it is to reverse. That's why it's crucial to envelop students from less-educated families in a knowledge-building environment as early as possible.

Rather than being restricted to the simple material they can read on their own, young children need to *listen* to their teachers read more complex books aloud and engage in discussions about what they've heard—and, depending on their age, write about it.³⁴ Even many middle schoolers can take in far more sophisticated content, and the vocabulary that goes with it, through listening and speaking than through their own reading.35 If teachers organize their read-alouds by topic instead of the skill-of-the-week, children have the chance to hear the same concepts and vocabulary repeatedly. Once they have a general familiarity with a topic, they can read more difficult text about it independently.

The Role of Working Memory

When we try to make sense of what we read, we rely on what cognitive scientists refer to as working memory, something psychology professor Daniel T. Willingham has called the staging ground for thought. Another definition might be consciousness. It's the process whereby we take in new information and combine it with the facts and procedures stored in our long-term memory. The key thing about working memory is that it has a limited capacity. And information in working memory is lost if it isn't quickly "rehearsed"—perhaps articulated or written about. By one estimate, the limit is just 15 to 30 seconds.36

So time is of the essence when trying to assimilate new information. If we can relate it to something we already know, it speeds up the process considerably. If we need to stop and look up every other word, or puzzle them out from context, we're far less likely to be able to understand and retain what we're reading.

Background knowledge, Willingham explains, also enables a reader to engage in something called chunking. Let's say the text in the 1987 baseball experiment said that the shortstop threw the ball to the second baseman, who threw the ball to the first baseman, resulting in two runners being out. The students who knew a lot about baseball could "chunk" those actions by recognizing them as a double play. But those who knew little about baseball would have to try to remember each step in the series of actions described, which occupies more space in working memory.

Scientists also use the word schema to describe this process. A schema is a mental framework constructed from accumulated information and experience and stored in long-term memory. When people already have a schema for a topic, new information on that topic has something it can stick to. If knowledge about baseball helps readers understand a text about baseball, it follows that knowledge about the world in general equips readers to do well on a test that covers a variety of subjects. And that's exactly what experiments have shown.37

here's no one right way to provide a high-quality education, and this country is too big and varied for one-size-fits-all prescriptions. But if we're equipped with a basic scientific understanding about which methods are most effective—and most likely to provide an engaging experience for kidswe should all be able to distinguish between approaches that



are likely to produce the outcomes we want and those that will only lead to a heartbreaking waste of precious time. The best first step is for a school or district to adopt one of the new content-focused elementary literacy curricula that have appeared on the marketand in some cases online, for free—over the past several years.

We'll need to simultaneously pursue many other reform efforts, of course, including improving teacher training, ensuring (Continued on page 39)

Bilingualism and Biliteracy for All

Celebrating Our Linguistic Strengths



By Chan Lü

bout one-third of children under age 8 in the United States have at least one parent who speaks a language other than English at home. And as of 2016, 9.6 percent of all U.S. public school students were identified as English language learners.² It is obvious that the American student population is becoming increasingly multilingual.

This trend is often widely celebrated in other countries. But as scholars who have focused on an array of issues related to borders and democracy have noted, the United States has a complex history with bilingualism:

In many countries, the ability of children to speak more than one language is seen as important. Such is generally not the case in the United States. As sociolinguist Joshua Fishman and his coauthors have claimed, "Many Americans have long been of the opinion that bilingualism is 'a good thing' if it was acquired via travel (preferably to Paris) or via formal education (preferably at Harvard) but that it is a 'bad thing' if it was acquired from one's immigrant parents or grandparents."3

Fishman made that claim more than five decades ago, but it still rings true—if not quite as loudly—today. For instance, Richard Ruíz and other scholars contend that in the United States, speaking a language other than English continues to be perceived as a problem, which they term a "language-as-problem orientation."4 Perhaps because of this perception, the burgeoning multilingualism of our nation's children is challenging our current instructional practices and even more so our educational systems. Across the country, we lack the preparation, materials, supports, or infrastructure to handle our children's linguistic diversity. Given the multiple benefits of speaking more than one language fluently,* we should actually celebrate this diversity—and we can.

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^{*}For more on the benefits of second language learning, see "Beyond a Bridge to Understanding" in the Summer 2018 issue of American Educator, available at www. aft.org/ae/summer2018/abbott.

There are in fact cognitive, social, and economic benefits to being bilingual and biliterate.

Our systems and practices are geared mostly toward monolingual English speakers. The language-as-problem perception has contributed to the spread of several counterproductive and inaccurate beliefs,⁵ such as:

- the two languages a bilingual person speaks are separate and distinct systems, as if bilingual students were two monolinguals in one;
- languages can be simply added or subtracted from the minds of bilingual speakers;
- restricting the use of the home language or only using it temporarily will transition students as quickly as possible to the dominant school language; and
- students' languages in school, if used at all, should be strictly separated by time, day, or subject.

Decades of research have shown that these beliefs are misconstrued; there are in fact cognitive, social, and economic benefits to being bilingual and biliterate.⁶

In this article, I will address the following questions that relate to our school policies and teaching practices: Do bilingual† children suffer from cognitive and linguistic disadvantages, or do they enjoy advantages unavailable to monolingual speakers? Is it detrimental to learning English at school if a child speaks, reads, and writes in a different language at home? What are some of the strategies teachers can use to help bilingual students and families? While across-the-board answers are impossible, I will briefly summarize relevant studies and connect them with the U.S. school context. In the end, I offer a few suggestions for classroom teachers.

Bilingualism and Cognitive Development

Is there a bilingual advantage in cognitive development? The simple answer is yes, no, and it depends. To date, researchers have found executive functioning to be one of the areas in which bilingual children are significantly stronger than monolingual children. Executive functioning refers to a variety of cognitive processes; the core includes inhibitory control of attention, updating working memory, and shifting between tasks.7 Inhibitory control of attention enables a child to selectively attend to the most relevant information and suppress attention to other stimuli (e.g., focusing on the teacher who is reading aloud, not the classmate who is fidgeting). Working memory refers to the brain's temporary storage and manipulation of the information necessary for such complex cognitive tasks as language comprehension, learning, and reasoning;8 updating working memory means constant monitoring and rapid addition or deletion of working-memory contents. Shifting between tasks is switching flexibly between tasks focusing on different properties (e.g., colors, shapes, etc.).

To date, numerous studies have compared bilingual and monolingual children and have found that bilingual children generally outperform their monolingual counterparts on inhibitory control,9 have better working memory,10 and perform better in shifting tasks.11 Such advantages are thought to be results of bilinguals' constant need to resolve linguistic conflicts, such as the word spring is female in Spanish (la primavera) but male in French (le printemps). This enhances their ability to handle nonlinguistic tasks too,12 like identifying shapes, recognizing patterns, and homing in on important features of a picture or diagram while ignoring distractors. This bilingual advantage in executive functioning is also confirmed by neuroimaging studies. For example, a recent study found that 11-month-old infants regularly exposed to two languages demonstrated significantly stronger responses in the brain areas known to be involved in executive functioning than infants in monolingual homes.13

However, it is also important to acknowledge that there have been studies documenting the lack of coherent evidence for a bilingual advantage in executive functioning;¹⁴ others have found that the magnitude (and therefore practical significance) of the differences varies depending on the tasks used, language pairs, and socioeconomic status.¹⁵ For instance, a study¹⁶ with bilingual and monolingual groups of children who were comparable ethnically, socially, and economically found no difference between the two groups of children on executive functioning.

In sorting out why different studies reach different conclusions, one key may be the fact that not all bilingual people are the same. It is extremely important to carefully define what we mean by *bilingual* and understand that there are quantitative (how much) and qualitative (how good) differences in children's exposure to the different languages. For instance, a study that did not find any difference between monolingual and bilingual groups of 24-month-olds on tasks of selective attention and inhibitory control also revealed that the bilingual toddlers' degree of balanced language usage predicted parents' rating of some measures of the toddlers' executive functioning. The researchers suggest that enhanced executive functioning in young bilingual children has to do with children actively using two languages and switching between the languages. 18

Therefore, the bilingual advantage in cognition appears to be tied to specific conditions of bilingualism.

Metalinguistic Awareness

The earliest findings demonstrating a bilingual advantage came from studies on children's metalinguistic awareness. ¹⁹
Metalinguistic means the



[†]For simplicity, I will use the term *bilingual* throughout the rest of text to refer to *more than one language*.

Research suggests that children's phonological awareness in their native language (Spanish) is beneficial in learning to read in English.



required understanding is not about any specific language, but about language in general; it involves children's conscious reflection on and manipulation of the properties of language.20 For example, bilingual children are more likely to notice and correct sentences like "Steve and Robert is a brother" that are semantically plausible but contain errors.²¹ While early studies on bilingual children's metalinguistic awareness focused primarily on the domain of oral language, more recently researchers have examined the roles different aspects of metalinguistic awareness play in literacy learning and particularly in learning to read.²² In learning to read, a child must realize that print represents speech and then figure out what elements of the written language represent what linguistic element. A child learning to read in two languages must realize how the mapping works differently in the two writing systems. There are two major challenges for bilingual children.

The first is that they need to know what linguistic element is represented by printed symbols in each language. In alphabetic languages such as English and Spanish, a letter is the smallest unit of the written language that represents a phoneme (phonemes are the smallest units of spoken language); therefore, children need to figure out the letter-sound correspondence at the phonemic level. Phonemic awareness is crucial in learning to read alphabetic languages. (For a detailed look at the English language and teaching children to read in English, see the article on page 4.) In non-alphabetic languages such as Chinese, children need to figure out how characters, the basic units of the writing system, are matched with syllables and morphemes (morphemes are the smallest meaningful units of language). For instance, the printed symbol \blacksquare , pronounced as $m\dot{u}$, represents the idea of "eye." In this case, children need to understand that

a holistic character represents a syllable; syllable awareness, rather than phonemic awareness, underscores early character acquisition among native Chinese-speaking children.²³

The second challenge is that writing systems vary in transparency—that is, in how consistent their spelling-sound correspondences are. For instance, Italian and Spanish are highly consistent: one letter makes only one sound. English is a more opaque alphabetic language. Think about how many sounds the letter string ough represents: although, bought, cough, plough, tough, through. The Chinese writing system is considered one of the opaquest; Chinese cannot be decoded at the level of grapheme to phoneme,²⁴ and there is a one-to-many relationship between syllables, characters, and meanings. For instance, the syllable shì can refer to more than 10 characters representing different meanings (morphemes), such as 市 city, 柿 persimmon, 事 issue, 式 style, 氏 surname, 饰 decoration, 势 power, 示 to demonstrate, 士 scholar, 视 vision, 试 test, 是 to be, and 世 world. 25 A beginning Chinese reader must holistically learn and memorize the spoken syllable, the corresponding character, and its meaning.

For anyone learning to read, understanding how print maps onto spoken language is fundamental. For children developing biliteracy, the additional challenge is that they need to figure out how their second writing system functions differently from their first before they can fully grasp the second language system.²⁶

This brings us to an essential question: Do bilingual children have stronger metalinguistic awareness that can assist them in learning to read? The answer is both *yes* and *it depends*. To date, many studies document that bilingualism boosts children's metalinguistic awareness (phonological, morphological, syntactic, etc.) with different aspects of reading (e.g., decoding, word reading, word knowledge, and comprehension). These benefits exist across different pairs of alphabetic languages (e.g., Spanish-English, Korean-English) and orthographically contrasting languages (such as Chinese-English).

For instance, a study examined whether children's phonemic awareness in their native language influenced English word recognition skills. ²⁷ The children were first-grade Spanish speakers in a transitional bilingual education program who were identified by their teachers as nonfluent English readers. The researchers administered a battery of tasks in the two languages assessing the students' phonological awareness and their word recognition and decoding skills. They found that Spanish phonological awareness predicted English word reading; Spanish word recognition also predicted performance on the English reading tasks. Such results suggest that children's phonological awareness in their native language (Spanish) is beneficial in learning to read in English, and training in phonological awareness in their native language could facilitate their ability to read in English.

One important factor is linguistic distance between the two languages. English and Spanish or English and French, as cases

When learning school subjects through two languages, students' academic performance is *superior* in reading and mathematics.

in point, share large numbers of cognates, like combustion vs. combustión and atmosphere vs. atomosphère. Therefore, it is logical to assume students' lexical knowledge in their first language could be transferred to reading in a second language. A test of this hypothesis with Spanish-speaking students in grades 4 to 6 found that students' ability to understand key concepts in English was related to their ability to recognize cognate relationships.²⁸ The connection between students' Spanish vocabulary knowledge and English reading comprehension was also found to depend on students' ability to recognize cognates. Such transferred skills have also been found to facilitate children's reading comprehension as early as first grade; by second grade, cognate awareness appears to contribute significantly to reading comprehension.²⁹ A newly published study documented that cognate instruction can be used to improve students' spelling and writing in grades 3 and 4 in bilingual (Spanish-English), English-only, and English as a second language classrooms.30

However, not all aspects of metalinguistic awareness facilitate reading in a second language. It depends on (1) whether the students' language skills are strong enough in their first language for them to develop a certain aspect of metalinguistic awareness, and (2) whether a particular aspect of metalinguistic awareness, developed in the first language, is useful in learning the second language.31 Let's take morphological awareness—the ability to understand morpheme meaning and reflect on morphemic structure of words³²—as an example. The English lexicon contains inflected, derived, and compound words like teaches, teachable, and highlight. Understanding what -able indicates will greatly help students understand the meaning of teachable, but also enable them to infer the meanings of other words like drinkable, walkable, or doable. Knowledge of and sensitivity to morphemes have been consistently found to contribute to children's vocabulary33 and reading comprehension development in English.34

Languages, however, do not always create words in the same ways. Chinese, for example, has a very productive compound morphology (i.e., it has lots of compound words, such as 黑板, hēibǎn, black-board, blackboard) but, due to its small number of derivational morphemes, a somewhat improvised derivational morphology (e.g., 学者, xuézhě, study-person, scholar). Furthermore, Chinese has no inflected words. Studies have shown that morphological awareness in Chinese contributes to native Chinese-speaking children's vocabulary acquisition³⁵ as well as reading comprehension.³⁶ For native Chinese-speaking children learning English, their morphological awareness in Chinese facilitated their understanding of morphology in English—but that facilitation was greater for compound words than for derived words, reflecting the fact that Chinese does not have a robust derivational morphology.³⁷

Looking at the full body of evidence, it seems that metalinguistic awareness is powerful in language and literacy learning,

and bilingual children enjoy the benefits of transferred metalinguistic awareness between the two languages. However, whether such transfer happens is influenced by many factors, including the linguistic distance between the languages, whether the second language requires such awareness, and the degree to which children have developed such awareness.

Bilingualism and Biliteracy for All

In recent years, many teachers and school systems have dispelled the language-as-problem perception and have embraced the many benefits of bilingualism and biliteracy.* Still, challenges regarding resources and capacity remain. One extremely pressing concern is that in diverse communities, it is impossible for teachers to understand all the languages spoken in their classrooms. What should we do to help our increasingly multilingual student body? I personally believe the dual language immersion approach should be adopted by all schools. Recent research has shown convincingly that when learning school subjects through two languages, students' academic performance is superior (not merely unaffected) in reading and mathematics, even though the tests are only in English.³⁸ On top of this, students in dual language programs are acquiring an additional language, along with a much more positive attitude toward multilingualism and multiculturalism.39

Implementing nationwide dual language immersion programs may not be feasible at this point. However, teachers with a high percentage of English language learners in their classrooms may consider the following strategies and shifts in perspectives in order to best help their bilingual learners.

First, we should consider students' home languages and backgrounds an asset, not a liability, in learning English. Children's strong home language background can give them a boost for learning English, as the research evidence above shows.

Second, basic language proficiency in the home language is not enough. Children should be encouraged to learn aca-

demic vocabulary in their home languages; by developing this stronger conceptual background, students will have a better foundation for building their academic learning in English. Research indicates that instead of bilingual people having two language systems in their minds, they actually have a shared semantic system and



^{*}For more on the history of bilingual education in the United States, see "Bilingual Education" in the Fall 2015 issue of *American Educator*, available at www.aft.org/ae/fall2015/goldenberg_wagner.

For younger children, phoneme alliteration can be made into a game easily played at home in a non-English language.



shared semantic/conceptual representation for translation equivalents.40 In the case of conceptual equivalence or near equivalence (e.g., fraction vs. fracción), vocabulary learning in a second language involves linking a word form in the second language to an already established lexical concept.41 Additionally, vocabulary knowledge itself is a manifesta-

tion of one's background knowledge;42 by the same token, stronger academic vocabulary indicates children's stronger academic background knowledge, which has a significant impact on their academic performance. 43 Therefore, encouraging students to learn as much academic vocabulary knowledge as they can in their home language will help—not hinder—their academic learning in English.

Third, teachers and families should foster students' understanding of and sensitivity to the languages they are learning analytically, rather than holistically. For example, for younger children, phoneme alliteration can be made into a game easily played at home in a non-English language; the goal would be to strengthen children's phonemic awareness in the home language. For instance, parents and children can pick one speech sound and come up with silly sentences in their home languages, like smiling snakes sipping strawberry sodas (Faint Frogs Feeling Feverish: And Other Terrifically Tantalizing Tongue Twisters by Lilian Obligado is just one book with more such examples).

For older children, teachers and families can capitalize on the more comprehension-related aspects of metalinguistic awareness, such as morphological awareness, to boost children's vocabulary learning, including academic vocabulary and comprehension.44 Parents and teachers alike can engage students in such activities. Whether it is word play among family members in the home language or more rigorous morphology instruction* in English in the classroom, students are bound to benefit from deeper understanding of the languages they are learning. Examples of simple word games that family members can play include Mad Libs, which helps children understand parts of speech, and a verbal version of charades, in which children are asked to explain a word without using the word itself.

Supporting Bilingualism: Resources for Teachers and Families

Colorín Colorado, www.colorincolorado. org, is a comprehensive source for researchand practice-based guidance on cultivating bilingualism and biliteracy. Through a partnership with the American Federation of Teachers and other supporters, the site offers teachers and families numerous tips. articles, book lists, classroom videos, and more. Here, we highlight links to specific resources for supporting young children as they learn academic English while also continuing to develop vocabulary, fluency, and literacy in their home language.

Cultivating Bilingualism at Home

Recent immigrants who do not speak English fluently and who may currently sense what Chan Lü's article refers to as society's "language-as-problem orientation" should nonetheless take pride in their home language and ensure they pass it on to their children. Being bilingual is a great gift that immigrant families and schools can give to students, since speaking two or more languages has many advantages when it comes to communicating with others and securing jobs in the future. To learn about second language acquisition, as well as writing poetry in two languages and the Seal of Biliteracy initiative, visit www. colorincolorado.org/raising-bilingual-kids. Another way families can strengthen children's bilingual language development is by reading aloud in their home language. To that end, reading tip sheets in 13 languages are available at www.colorincolorado.org/ reading-tip-sheets-parents. Organized by age groups ranging from babies to thirdgraders, the tips offer practical ways ("play word games," "take control of the television," "be patient") for families to lay the foundation for literacy at home.

Diving into Dual Language Learning at School

To support children in developing their native language while learning academic English, check out the resources at www. colorincolorado.org/bilingual-duallanguage-education. These include articles on English language learners' most valuable resource—their home language and teaching bilingual students with disabilities; a video on native language support; and research and reports on effective dual language programs.

Accelerating Learning with Cognates

For ways to use cognates to develop comprehension in English and also take

^{*}For examples of morphology instruction in English, visit www.readingrockets.org/ blogs/shanahan-literacy/what-should-morphology-instruction-look.

For older children, examples of simple word games that family members can play include Mad Libs and a verbal version of charades.

Last but not least, it is important for teachers and families to keep in mind that positive attitudes toward bilingualism, biliteracy, and biculturalism are essential. After all, more than half of the world's population is bilingual to some degree; being bilingual should not be viewed negatively, but as a *positive way* of being. When we adopt a language-as-resource orientation, we celebrate children's strengths, honor their identities, and are better prepared to support their integrated dual language development.



s I have delineated here, there are innumerable benefits bilingual children enjoy, yet the journey may not be as easy as nor similar to what we are used to with monolingual English-speaking children. Still, it is worth considering that valuing and working with the linguistic differences that children and families bring to our classrooms is an inherent part of forming a collaborative relationship with them. Such a relationship can empower these children and families and perhaps also inspire English-speaking children and families to learn more about other languages and cultures. This collaborative stance can also enrich our school curriculum.⁴⁵ The initial costs of these efforts are slight compared with the long-term personal, educational, and societal benefits.

Endnotes

- 1, M. Park, A. O'Toole, and C. Katsiaficas, Dual Language Learners: A National Demographic and Policy Profile (Washington, DC: Migration Policy Institute, 2017).
- 2. J. McFarland et al., The Condition of Education 2019, National Center of Education Statistics, U.S. Department of Education, https://nces.ed.gov/pubsearch/pubsinfo. asp?pubid=2019144.
- 3. A. C. Hernández, J. A. Montelongo, and R. J. Herter, "Crossing Linguistic Borders in the Classroom: Moving beyond English Only to Tap Rich Linguistic Resources," in Crossing Borders, Drawing Boundaries: The Rhetoric Lines across America, ed. B. Couture and P. Wojahn (Boulder, CO: UP Colorado, 2016).
- 4. R. Ruíz, "Orientations in Language Planning," NABE Journal 8 (1984): 15-34.
- 5. C. Baker and W. E. Wright, Foundations of Bilingual Education and Bilingualism (Bristol,

(Continued on page 40)

advantage of the similarities between English and Spanish when teaching both languages, visit www.colorincolorado.org/ using-cognates-ells. And to watch an interview with Susan Lafond (a National Board Certified Teacher in English as a new language) on why cognates are a powerful tool in teaching academic content and vocabulary, visit www. colorincolorado.org/video/ how-cognates-can-help-ells.

Playing with Words

To reinforce language learning, educators and families alike can turn to word play games that children are sure to enjoy. For fun ways to practice sounding out words, visit www.colorincolorado.org/article/ playing-word-sounds-stretch-and-shorten. Riddles are also a great way for students

to really hear the sounds of words and build vocabulary and strengthen comprehension. Ideas for using riddles in school and at home are available at www. colorincolorado.org/article/playing-wordsriddles. What's another engaging activity for children to practice their literacy skills? Rhyming games, of course! Ideas for guessing the next word, singing rhymes together, and rhyming around the house are available at www.colorincolorado. org/article/getting-ready-read-usingstorytelling-rhymes-and-more.

Celebrating Families' Strengths

For ways to connect students' knowledge from home to their learning in school, check out the great resources focused on culturally responsive instruction at www. colorincolorado.org/culturally-responsiveresources. Videos and podcasts with experts in research and practice, such as Gloria Ladson-Billings and Larry Ferlazzo, are featured, as are books by Lisa Delpit, Sonia Nieto, and Zaretta Hammond. For an in-depth guide on supporting family literacy, particularly among Spanishspeaking families, see the toolkit at www.colorincolorado.org/guide/afttoolkit-teachers-reaching-out-hispanicparents-english-language-learners.

-EDITORS

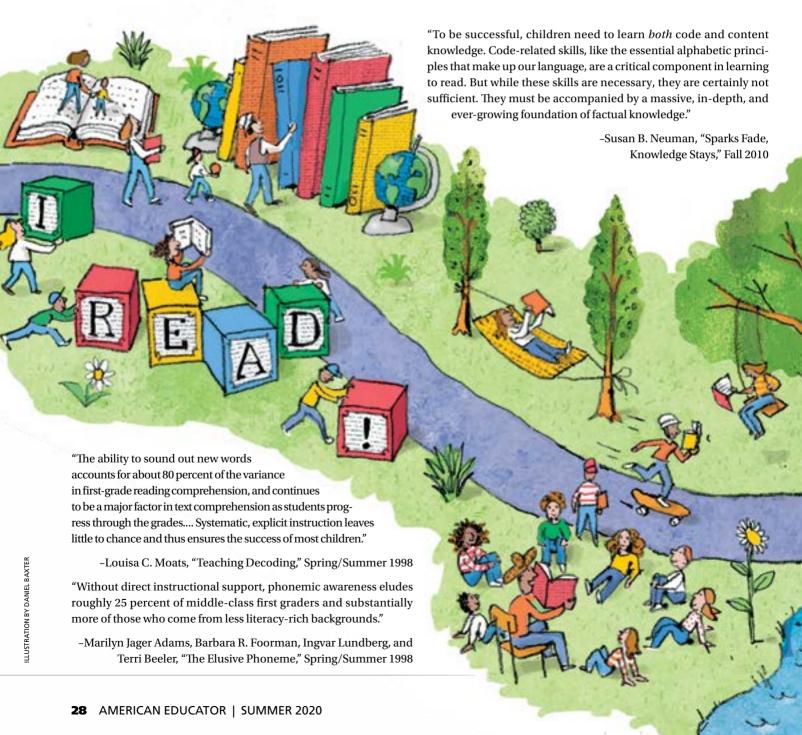
For more in-depth articles on bilingualism and biliteracy, check out American Educator's Subject Index at www.aft.org/ ae/subject-index and scroll down to the "English Language Learners" section.

ON THE ROAD TO LITERACY WITH AMERICAN EDUCATOR

Highlights from the Archive to Support Research-Based Reading Instruction

For more than two decades—and continuing in this issue—American Educator has followed the research on how to maximize each child's chance of becoming a strong reader. The two biggest takeaways this collection of articles offers are that we must (1) provide enough explicit instruction and practice to ensure that students learn to sound out words fluently, and (2) immerse young students in learning history, science, literature, and the arts so that they develop the keys to comprehension: broad knowledge and a rich academic vocabulary.

-EDITORS



"Researchers have estimated that the spellings of nearly 50 percent of English words are predictable based on sound-letter correspondences that can be taught (e.g., the spellings of the /k/ sound in back, cook, and tract are predictable to those who have learned the rules). And another 34 percent of words are predictable except for one sound (e.g. knit, boat, and two)."

> -R. Malatesha Joshi, Rebecca Treiman, Suzanne Carreker, and Louisa C. Moats, "How Words Cast Their Spell," Winter 2008-2009

"Some children are able to develop letter-sound knowledge more quickly and efficiently than others.... An important direction for our field is to work toward determining the most time-efficient approaches to ensuring each child in a class meets grade-level expectations in word reading each year."

> -Nell K. Duke and Heidi Anne E. Mesmer, "Phonics Faux Pas," Winter 2018-2019

> > READ

"How can children 'read to learn' when they are still learning to decode text independently? The answer is that adults read aloud to them."

> -Tanya S. Wright, "Reading to Learn from the Start," Winter 2018-2019

"Those who enter 4th grade with significant vocabulary deficits show increasing problems with reading comprehension, even if they have good reading (word identification) skills. The available evidence does not suggest a substantial 'catching-up' process, but rather a continuing slippage relative to those with average and above-average achievement."

-Andrew Biemiller, "Oral

Comprehension Sets the

Ceiling on Reading

Comprehension,"

Spring 2003

"Background knowledge and vocabulary, along with fluent decoding ability, [are] at the center of reading comprehension."

-E. D. Hirsch, Jr., "Building Knowledge," Spring 2006

"We must organize our readings in every subject so each text bootstraps the language and knowledge needed for the next. Gradually, students will be ready for texts of greater complexity."

> -Marilyn Jager Adams, "Advancing Our Students' Language and Literacy," Winter 2010-2011

"Research shows that telling parents about research-based practices in reading does lead to improvement in children's reading."

-Daniel T. Willingham, "For the Love of Reading," Spring 2015

For more in-depth articles on literacy, check out American Educator's Subject Index at www.aft.org/ae/subject-index and scroll down to the "Reading" section.

ENDING BOOK HUNGER: ACCESS TO PRINT ACROSS BARRIERS OF CLASS AND CULTURE



When it comes to access to books, the United States and countries around the world face a crisis. Two out of every five children in America cannot afford to buy a single book. And millions of families in other nations may not be able to find even one children's book in their native language.

In Ending Book Hunger: Access to Print Across Barriers of Class and Culture (Yale University Press), law professor Lea Shaver examines the linguistic and cultural gaps left by the traditional publishing industry and suggests ways to help. As Shaver states, "we must begin to think about books in the same way we think

of education and health care. Market, charitable, and government efforts are all needed, or too many people will be left out."

The obstacles to getting quality books into the hands of every child are daunting. The central difficulty has always been cost: less affluent people have less money to spend on books, and so the profit margin for books that reflect or cater to their communities may be too low for most publishers to stay in business. These

economics have also driven a lack of diversity among children's book authors, illustrators, and subjects. For children around the world who don't speak one of the most widely used languages, like English or Spanish, or a national language considered affluent, like Finnish or Dutch, there are likely no options at all.

Finally, the books themselves, even if they are available, must be distributed to communities in need. Many people speaking underserved languages, like Ladakhi in India or Nyanja in Zambia, live in far-removed locations lacking reliable postal services. Compounding this problem is the fact that to grow and develop, children need a variety of books—not just one or two—reflective of their own and others' experiences.

Shaver profiles individuals and organizations taking steps to surmount these challenges, such as crowdsourcing book translations, providing e-books and e-readers, or working within the publishing industry. She highlights AFT-partner First Book (featured below) and Dolly Parton's Imagination Library; they use different but effective strategies to get books to children in the United States. If partnerships between individuals, nonprofits, the government, and publishers can succeed, Shaver writes, the effects on 1 billion schoolchildren and their communities will be life changing.

FOSTERING A LOVE OF READING WITH FIRST BOOK

To ensure that high-quality, low-cost books get into the hands of children—and the educators and others who support them—the AFT has partnered with First Book since 2011. First Book works with publishers to bring books and other educational resources at very low cost, and in some

cases free, to children and families in need via teachers and other staff who educate and engage them. To learn more, visit www.firstbook.org.

Here, we highlight some staggering statistics that show the fruits of the AFT's friendship with First Book.

More than 6 million books have been distributed by the AFT since its partnership with First Book began.



About \$650,000 was awarded by First Book to AFT locals and given to members directly so they could choose and receive books. This funding was part of Offering More Great Books to Spark Innovation (OMG Books), a program in which more than \$4.7 million in funding was used to distribute 1.5 million brand-new books and e-books to children in low-income communities.



More than **160,000 AFT members** have registered with First Book and now have access to diverse **books**, **school supplies**, **and basic-needs items** at 50 to 90 percent off the retail price so they and their schools can purchase them for students in need.



More than **180,000 books** from the OMG Books program have been given to AFT members for multicultural classroom collections and for students to take home and keep.

Nearly **120 book truck distributions** have been hosted by AFT locals, bringing more than 40,000 low-cost books to their areas.



Heroes and Helpers Fighting COVID-19

We Are All in This Together



School closures highlight the inequities in our society. The AFT and First Book are striving to ensure all students have their very own books. Here, Randi Weingarten begins distribution of 10,000 books for the children living in Win shelters.



By Randi Weingarten, AFT President

he coronavirus pandemic and the ensuing economic downturn has been the worst crisis our country has faced since World War II. Fighting it requires a commitment to science and transparency, along with government intervention not seen since the Great Depression—and a spirit of common cause.

As someone who has dedicated my professional life, and much of my personal life, to building a stronger, more vibrant union movement, I know that our union has been built for this moment. It is the vehicle we can use to ensure our voice is heard and, with that, ensure a stronger democracy and a better life for all. As we face unprecedented challenges to our health, safety, and economic security, more and more people are seeing the true value of the union movement. Acting in unison, and as a broader community, we will overcome this pandemic and build a better America. How? Through service and caring, activism

As I write this, close to 100,000 people in the U.S. have died as a result of COVID-19 and nearly 40 million people have filed for unemployment. At the same time in these dark days, essential workers—including so many of our members—have been caring for, feeding, protecting, and educating America. The round-theclock work of our healthcare professionals and public employees was obvious to all. Our food service workers fed families, not just

children, with grab-and-go meals, and educators turned on a dime, as schools closed in mid-March, to engage their students remotely. This can-do attitude supported members across the country to jump into critical new roles—from school nurses administering COVID-19 tests in their communities to school bus drivers delivering meals to families. And our union was there every step of the way to provide support and devise solutions on the local, state, and national levels.

With each day of the pandemic, Americans have grown increasingly grateful for things we used to take for granted, like grocery workers, without whom we could not meet our most basic needs. Parents have a new appreciation for how complex and demanding teaching is, and for how teachers have been helping their children continue to learn, stay engaged, and stay safe inside during this uneasy time. And then there are our healthcare heroes: the nurses, EMTs, doctors, orderlies, respiratory techs, and other workers who put their health and lives at risk every time they report to the frontlines of this pandemic. Their jobs would be incredibly difficult even under the best circumstances, but the fact that so many have been forced to treat patients without adequate personal protective equipment or other safeguards is unconscionable—and the consequences have been deadly. We have lost far too many of our members to COVID-19. Some because the Trump administration downplayed the virus, refusing to prepare and protect the country before it was too late, and some because they did not have the protective gear they needed as they were protecting us. All of them, the souls we have lost, are people—not numbers. We must remember, honor, and mourn them.

We must also remember those who are with us, but are struggling. The children who can't fully comprehend the pandemic but who miss going to school, playing with their friends, and having cookouts with relatives. The adults who live alone—especially those with conditions that put them at high risk—who are truly isolated. The teens who have missed out on coming-of-age rituals like attending prom, getting the lead role in the school play, scoring a goal, or hitting a home run. And the communities—families, students, and educators alike—who have looked forward to high school and college graduation ceremonies but whose hugs and high-fives will have to wait.

Thankfully, so many of us are learning how to be physically distant yet socially close. And we're creating new ways to hold fast to our cherished traditions—such as the awe-inspiring graduation



"Trump has continually downplayed the seriousness of the pandemic through false and misleading pronouncements.... His administration dismantled the pandemic unit in the National Security Council in 2018."

> -Kent Wong, a vice president of the California Federation of Teachers

speech Barack Obama gave on May 16 as part of the Graduate Together initiative celebrating the high school class of 2020.

We're also looking forward, building a new normal to safely live, learn, work, and socialize until we have a vaccine. Many states have flattened the curve and we are working with them to reopen in ways that are responsible. But some states, with Trump's reckless prodding, are downplaying the virus. We will continue to resist their dangerous and misleading messages—and we'll keep fighting for what's needed to reopen safely: personal protective equipment, abundant testing, and virus containment. We do not have to choose between our physical health and our economic health. To transition from community-focused physical distancing and stay-in-place orders to responsible reopening, we need leaders who will ramp up the capacity to test, trace, and isolate each new case

Leading by Listening

Until we have a vaccine and highly effective treatments, and until both are widely available, our priorities as a union are:

- the health, safety, and well-being of our members—especially our 200,000 healthcare workers and other members on the frontlines—and the communities in which we live and work:
- the short- and long-term economic supports working people
- the realization of new strategies—and funding to enact those strategies-for our public schools, colleges, businesses, and other institutions so we can protect people's lives and livelihoods; and
- the integrity of elections and the health and safety of voters.

Building Our Collective Power

We build power by engaging members and communities around our shared values and aspirations. We build power by creating community inside and outside the union, through coalitions, campaigns, and connections. And together, we accomplish what is impossible to achieve alone.

Since January we have rallied together, even while physically apart, like never before to meet the many challenges presented by the pandemic. We secured personal protective equipment for frontline workers, steered federal and state legislators away from corporate handouts and toward supports for working people, and made sure our members had the information they need to continue doing their essential work.

While the Trump administration ignored, denied, and downplayed the deadly reality of the COVID-19 pandemic, the AFT's healthcare leaders and members sounded the alarm back in January. Since then, the AFT has been working nonstop to protect the health and safety of our members who are on the frontlines and to

develop resources and guidance for all members. Here are some ways you can join the heroes and the helpers, boosting the power of our collective actions.

- · Spread the word about the AFT's new member benefit: trauma counseling. Learn more at www.aft.org/benefits/ trauma.
- · Get answers to your health, safety, workplace, and financial questions by calling the AFT at 800-900-2343 or by emailing us at outbreak@aft.org.
- Stay informed by participating in the AFT's telephone town halls. Visit https:// actionnetwork.org/forms/aft-tthsubscription to sign up.
- Make sure your network knows about the heroic work our frontline members are doing every day by sharing stories from https://voicesfromthefrontline.org/.
- · Honor members, and their loved ones, who lost their lives during the pandemic. The Albert Shanker Institute's memorial site is a place for the whole AFT family to gather virtually: www.shankerinstitute. org/commemorations.

- Ensure that your voice is heard as healthcare, education, and other employers respond to the pandemic. Resources on collective bargaining, emergency personnel, and memoranda of understanding are available at www. aft.org/covid19-leaders.
- · Join our network of activists to receive alerts on how your voice can help address everything from securing personal protective equipment to increasing economic supports for workers: www.aft. org/action.
- Multiply the AFT's power to continue initiatives like distributing books to children in homeless shelters. See www. aft.org/covid-19-response-fund for details.
- Read about members' experiences and share your experiences at https:// aftvoices.org.
- Protect America's people and values by helping elect Joe Biden and other leaders who will work with us to build a better America. Resources to help you be active in the 2020 process are available at http:// aftvotes.aft.org/2020-take-action.

Together, we are accomplishing what is impossible to achieve alone. I will never ever forget the stories I have been hearing in the daily touches I have with leaders and members of my unionnurses, state employees, school food service personnel, and educators among them. I want to share some of what I'm hearing from the frontlines of this pandemic, from the alarming to the awe-inspiring.

There are bus drivers and food service workers developing plans to keep providing grab-and-go meals for families over the summer; teachers of English language learners creating new ways to build bonds with students and their families; and social workers, juvenile justice workers, and others who work in facilities like nursing homes and prisons, quietly reassuring the people they care for. Along with their worries, they share their hope and ingenuity and joy.

From the moment the first school closures were contemplated, I got urgent calls and emails from AFT members and leaders trying to figure out ways to feed students who rely on school meals so they wouldn't go hungry. Here are just a few examples of the ways AFT members sprang into action for the students, families, and communities they love.

The Toledo (Ohio) Federation of Teachers is packing grab-andgo meals for students to last several days at a time. Tia Harris, a veteran school bus driver in Grants, N.M., is working with 20 other school bus drivers to deliver some 1,000 meals every day. Driving their normal routes, instead of picking up students, they drop off food. In Dallas, Yolanda Fisher and her colleagues go to work before dawn—preparing and packaging 700 breakfasts, 700 lunches, and 700 dinners that they distribute to students. And in Lee County in Florida, school food service workers are preparing and distributing up to 25,000 free grab-and-go meals every day, available to any child 18 or younger.

Millions of students have been learning remotely because of the amazing work of their teachers. In just a few days in March, 75,000 public school teachers in New York City alone converted their homes into remote learning centers. For United Federation of Teachers member Erica Wilde, an eighth-grade teacher at P.S. 99 in Brooklyn, this included using Google Translate to communicate with her students' parents, who speak a wide range of languages—from Albanian to Uzbek. Sari Beth Rosenberg greeted the students in her virtual AP U.S. History classes with an upbeat song each day, then they launched into high-level discussions. But, Rosenberg says, "I will never be able to replicate the magic of teaching in a classroom from my laptop."

Remote learning is not ideal, even under less stressful conditions. Teachers miss their kids, and many students have surprised themselves by wanting to go back to school. As we return to inperson learning, we will put our solution-driven unionism and ingenuity into addressing many of the learning-loss issues that have been raised.

And yet, educators across the country have been meeting the challenges of distance learning with ingenuity. Michael Shunney, an industrial technology teacher at West Warwick High School in Rhode Island, knew that healthcare and other essential workers in the state were in need of protective gear—and that his students were in need of a compelling opportunity to learn. On the state's first day of distance learning, Shunney posed a question to his students: could they use the school's 3D printers to make protec-



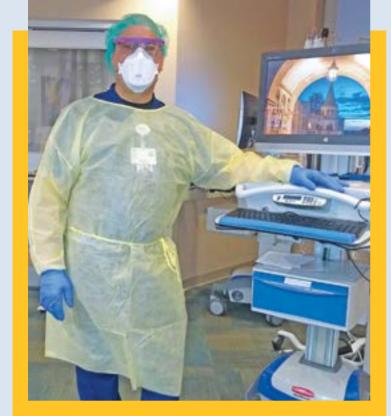
"The AFT and First Book's very generous book donation benefited our community. Seeing the smiling faces of the parents and students getting these good quality books brightened my day."

-Kim Pendry, Title I math teacher and member of the AFT-McDowell County (West Virginia)

tive equipment? The students were up for the challenge and Shunney, with help from the school district and the West Warwick Teachers Alliance, got permission to take the school's five industrial printers out of the school and distribute them to students. Using an open-source design, Shunney and four students already have produced hundreds of face shields, which are now protecting area nurses, doctors, EMTs, firefighters, and police officers. The fire chief said that, with protective equipment running low, the shields arrived "just in time."

Guidance on Summer Learning and Reopening Schools

What are the most effective and safest ways to engage students in learning over the summer? When and how will schools reopen? Could staggered schedules in high school and small groups in early elementary school be sufficient to keep students healthy? These are just a few of the urgent questions facing us. Looking ahead, we will have to be flexible in our actions, but we will remain firm in our values. We will protect everyone's health and safety, create new opportunities to enrich learning for our most vulnerable students, and fight for additional school nurses and counselors to meet students' and families' social, emotional, physical, and mental health needs. For the latest on maximizing summer learning and to read the AFT's landmark plan for safely opening schools, see www.aft.org/coronavirus.



"Taking care of COVID-19 patients is exhausting, but the nurses aren't calling out sick.... It's frustrating and scary, but we take care of each other in the midst of this madness."

> -Jose DeJesus, registered nurse and member of the Health Professionals and Allied Employees (New Jersey)

Lisa Donofrio teaches at the Fashion Institute of Technology. Even as she self-quarantined after being exposed to COVID-19 in her classroom, she remained focused on reworking classes and helping students complete their courses so their college careers are not derailed. Throughout the spring, Donofrio scheduled oneon-one virtual meetings and held regular class time. She tried to provide as much creative inspiration as possible, modeling a World War II strategy for her students: "Make do and mend."

Even as we appreciate these innovative approaches to remote learning, we know that school closures have exposed many inequities in our country, including the digital divide. In the nation's capital, where up to 40 percent of students lack a computer or internet access, the Washington Teachers' Union partnered with local TV stations to air lessons aligned with district learning standards for different grade groups. And the digital divide is not just an urban problem. Michele Bushey teaches high school biology in Saranac, N.Y., where the mountainous terrain sharply limits internet access. The district's shift to online learning didn't work for students without internet, so Bushey spent hours each day calling students to provide alternate instruction, all while helping her daughter, who is in second grade, learn remotely. Bushey has been contacting legislators to advocate for expanded internet access. Without it, many parents in her community have to drive their children to parking lots outside buildings with Wi-Fi to do their homework. Even some teachers have had to resort to this.

We are building partnerships to ensure that students without internet access continue to learn, wonder, and explore, even as they stay safely inside. We're prioritizing one of the most fundamental things families can do together—reading and inspiring a lifelong love of reading—so the AFT launched AFTBooks4Keeps.

Learn More

American Federation of Teachers aft.org/coronavirus

The AFT's resources cover everything from face masks to free food for students. These also include webinars about how to convert classes to remote learning, and opportunities to influence coronavirus policy in Congress.

AFT Members on the Frontlines www.VoicesFromTheFrontline.org

The Trump administration's failed response to the COVID-19 pandemic has put lives at risk. But members of the AFT are on the frontlines fighting to keep everyone safe. As one way to recognize their sacrifices and hard work, we have created this space to share their personal and heartbreaking stories.

Share My Lesson

sharemylesson.com/coronavirus/remote The AFT's Share My Lesson helps educators and parents access free resources, lesson plans, and ideas on distance learning for all grades and content areas. It also has

suggestions for reaching students with disabilities and English language learners, and for dealing with stress and mental health issues during this time.

AFT Academics

aftacademics.org/covid-19

Solidarity Academy webinars offer essential information and provide a forum for discussion on issues affecting higher education employees during the coronavirus pandemic. These include how to quickly convert classes to high-quality remote learning, how the coronavirus is affecting adjunct and contingent faculty, and how the pandemic is affecting international students.

First Book

firstbook.org/coronavirus

First Book is a nonprofit dedicated to ensuring that all children in need have books of their own. While schools are closed, it has focused on reducing inequities in learning opportunities by distributing 8 million books to children who don't have reliable access to online learning.

Wide Open School

WideOpenSchool.org

Wide Open School is a free collection of online learning experiences and activities for kids, curated by the editors at Common Sense and organized by grade band and subject. Everything on Wide Open School centers around the schedule, which is programmed each "school" day for each grade band.

Colorín Colorado

ColorinColorado.org/coronavirus

It's important to create bonds to support both students and their families throughout the pandemic, especially for students who are learning English. Colorín Colorado is co-produced by the PBS station WETA and the AFT, and it serves educators and families of English language learners in grades preK-12.

Reading Rockets

www.readingrockets.org/article/whenschool-closed-resources-keep-kidslearning-home

In partnership with First Book, a nonprofit through which the AFT has distributed more than 6 million books in recent years, AFT-Books4Keeps is focused on getting children books to ensure they can be engaged and stimulated in this very uncertain and isolating time through reading. To kick off AFTBooks4Keeps, the AFT donated 10,000 bilingual, multicultural, and social and emotional learning books from First Book to the more than 2,100 children living in Win shelters, the largest provider of family shelter and supportive housing in New York City.

Another low-tech, inclusive way we are reaching and helping as many people as possible is by phone. The AFT and the National PTA convened a telephone town hall in April about supporting our students and families. Among the 55,000 people on the call, most questions and comments were about coping with stress. Research shows that chronic stress may affect a child's abilities related to self-regulation (including their emotions, attention, and behavior) and to learning. But research also shows that an essential factor for whether stress is tolerable or toxic is the presence of supportive relationships, like that of a caring parent or other adult. During the telephone town hall, experts in mental health, learning science, and psychology offered suggestions for alleviating children's anxiety with routines, relationships and resilience. (Links to these resources are in the "Learn More" box below.)

To help students sum up their learning this school year, the AFT brought together a cadre of preK-12 members in virtual teams to design Culminating Capstone Projects. These projects, organized by grade band, integrate standards-based content across subjects and are developmentally appropriate. Now available on the AFT's sharemylesson.com, these projects engage students in honing the skills and knowledge they've acquired over the first seven months of classroom learning in innovative, meaningful ways. And they can also be deployed during a voluntary summer learning program or as a reentry into the next school year.

Honoring Workers

Many healthcare professionals have been redeploying to where they are needed most. In Connecticut, some school nurses are performing COVID-19 testing at drive-through testing centers. A longtime registered nurse with the New York State Department of Health volunteered to administer tests in New Rochelle, the first place in New York to see community spread of the virus, and then administered tests in other areas with outbreaks. "Seeing all these nurses volunteering," she said, "it struck me that when everyone else is running away, nurses are there."

Healthcare personnel are risking their lives every day not just because of the virus, but because of the Trump administration's failure to plan and to use its power to increase supplies. Health Professionals and Allied Employees member Jose DeJesus, a reg-

"I reach out directly—one-toone—to my students who don't have internet to try to provide alternate instruction. Most days, I'm on the phone and available to answer guestions and review lessons—both for kids with and without internet from about 6 a.m. to midnight."

> -Michele Bushey, teacher and president of the Saranac Teachers Association (New York)



Looking for free e-books, tips for helping children develop their writing skills, or fun ways to build their knowledge of art, civics, science, and more? Reading Rockets is a comprehensive website for families and educators on children's literacy development. Whether you are a teacher looking for high-quality digital resources or a parent crafting an "after school" program for your child, you'll find plenty of creative ways to extend children's learning. The AFT has been a proud partner of Reading Rockets for over two decades.

Project Parachute

www.eleos.health/parachute

Healthcare workers across the country face unprecedented challenges as they deal with the COVID-19 pandemic. Project Parachute is a network of licensed therapists, in cooperation with Eleos Health, that is matching frontline healthcare professionals with licensed therapists to provide pro bono therapy.

Turnaround for Children

www.turnaroundusa.org/coronavirus

Even at a distance during the pandemic, we need to maintain connections to our family, friends, teachers, and peers. This curated list has resources for any adult who has a trusting, supportive relationship with a child—and for young people themselves.

American Psychological Association www.apa.org/topics/covid-19

The American Psychological Association's website is continually updated for psychologists, healthcare workers, and the public. Resources include telehealth policies in all 50 states, strategies for students to reduce stress, ways to manage COVID-19 concerns for people with obsessive-compulsive disorder, and more.

National PTA

www.pta.org/home/family-resources/ coronavirus-information

The National PTA's priority during this crisis is to help keep people safe and healthy while meeting the educational, social, and

emotional needs of all students, educators, and families. It has compiled resources to support families and teachers who are navigating working, teaching, and learning at home.

AFL-CIO

https://aflcio.org/covid-19

The AFL-CIO has an extensive set of resources for workers impacted by the pandemic. It includes information on assistance available by state, immigrant workers, unions' responses in the U.S. and around the world, and industry-specific issues (from airlines to emergency workers). The AFL-CIO also lays out the labor movement's top priorities to address the pandemic: keep frontline workers safe; keep workers employed and protect earned pension checks; keep state and local governments, public schools, and the U.S. Postal Service solvent and working; keep America healthy—protect and expand health insurance for all workers; and keep America competitive—hire people to build infrastructure.



"Our clinical laboratory specialists who are now running statewide testing of COVID-19 had practiced their pandemic response.... The **preparedness of** these valuable union public employees is an asset to Montana."

> -Jill Cohenour, Montana state senator and member of the Montana Federation of Public Employees

istered nurse in New Jersey, said that hospital employees were being issued one single-use paper surgical mask and expected to make it last a whole week. Nurses at his hospital were being asked to save their single-use yellow gowns for possible laundering and reuse—gowns nurses routinely rip from their bodies to minimize exposure before throwing them away. While the Trump administration ignored this crisis—and even baselessly insinuating that healthcare workers were stealing—the AFT rallied. In the spring, the AFT purchased 500,000 N95 masks, 50,000 face shields, and 1,000,000 surgical masks for frontline workers like Jose DeJesus.

America's health professionals are showing the compassion, competence, and commitment that are in short supply from the president, who claims absolute authority but shirks responsibility. Experts note that the Trump administration's failure to acquire and distribute tests for COVID-19 resulted in far more cases and fatalities than in countries that made the necessary preparations. State employees—scientists and technicians who do important work behind the scenes for our collective health and safety every day—have rushed to fill the void. AFT members in Montana and New York have developed tests for COVID-19, and are working weekend shifts, early mornings, and late nights in state labs to turn around test results quickly so healthcare providers can plan treatment and stop the spread of the virus.

This pandemic has upended all our lives, but it has also put many things into perspective: Science is important. Government is important. Harnessing science and government for the good of the people is critical.

Everyday Americans—grocery workers at my neighborhood store; teachers making videos to show their students how much they are loved; the restaurants and small businesses trying to stay open and to keep their workers employed; nurses, orderlies, and intensive care doctors, like my kid sister—they are the best of America and the glue holding us together. And, when this crisis passes, we will properly honor and mourn those we have loved and lost.

Building a Better America

We all yearn to get back to normal. That means, in the absence of a vaccine, we must determine how to address both the health emergency and the economic catastrophe. It's not an either-or choice; the health and safety of Americans go hand in hand with economic recovery. And we must "reopen America" better than we closed it.

While the president has shirked his responsibility, several governors—Republicans and Democrats—have stepped up. In one of our telephone town halls in April, we were joined by three of those frontline leaders: Michigan Gov. and AFT member

Reducing Student Debt

The rising cost of higher education has led over 45 million people in the United States to seek out student loans to finance their pursuit of higher education, borrowing over \$1.6 trillion. About 25 percent of these borrowers are now in distress they're not able to pay the full amount each month, or they have gone into default. Relief is available, but student loan servicers and the United States Department of Education often seem to confuse or misdirect borrowers as much as they help them.

Forgive My Student Debt (www. forgivemystudentdebt.org/covid-19) provides up-to-date information to manage student loan debt during the pandemic, including advice from the AFT and our partners about new federal provisions affecting federal student loans. It also

connects members with a key resource: AFT's Students Debt Clinics.

AFT's Student Debt Clinics

In a 90-minute program, our Student Debt

- Situate the experience of borrowers in the midst of a national student debt crisis and empower them to manage their student debt by giving them information on free federal programs that may lower their monthly payments and lead to their loans being forgiven;
- Introduce them to a free AFT member benefit that will simplify the management of their student loans with the help of our partners at Summer; and
- Engage them in union activism to address the student debt crisis by

showing that individuals' struggles are the result of political failures—failures that add to existing inequalities in our society.

Participants learn about two free federal debt relief programs:

- Income-driven repayment plans, which are available to every federal student loan borrower. These plans are adjusted for gross income and family size, and they save many borrowers money.
- Public Service Loan Forgiveness, which allows qualifying federal student loan borrowers to have the money they saved using an income-driven repayment plan forgiven after making 10 years of payments while working in public service (including teaching).

Gretchen Whitmer, Illinois Gov. J.B. Pritzker, and New Mexico Gov. Michelle Lujan Grisham. They talked about two overriding questions: how to safely reopen public schools and the economy in general, and how to counter the financial threat the crisis poses to resources for education and other essential public services. All have consulted with our affiliates in their states to make sure working people are a priority of the recovery. The contrast between their leadership and Trump's shows just how much elections matter. Partnering with these and other caring governors, we are making sure our members are being protected; essential services are being funded; and schools, colleges, public services, and healthcare systems are meeting the needs of those we serve.

Seeing that the Trump administration was not going to provide science-based guidance for reopening, we developed our own guide—and it's now being used across the country. Unlike the president, who wasted several critical weeks pretending there was no real threat to the U.S., we were well prepared to develop a guide. We started focusing on the novel coronavirus in January, held our first press conference about it on February 2nd, and immediately started responding. Our 20-page "Plan to Safely Reopen America's Schools and Communities" (available at aft.org/reopen-schools) sprung from an intense collaboration of public health professionals, union leaders, and frontline workers—especially teachers and nurses. It sets forth specific, flexible strategies for what happens in the period between flattening the curve and truly eradicating the virus.

This crisis has laid bare every inequity of our country and as well as the disastrous consequences of cuts to the nation's public health infrastructure. Think about it: the lack of paid sick leave for all workers, the prevalence of food insecurity, the gaping digital divide, and the unconscionable number of Americans who are uninsured or underinsured. Forty percent of Americans couldn't put \$400 together in an emergency pre-pandemic, and by mid-May, 39 percent of Americans who make less than \$40,000 had lost work. Yet, states like Florida so defunded their governments that they can't even get unemployment checks out to people.

We will need bold steps, through government action focused on the needs of working people, to repair the harm to people's health, the economy, and our democracy. Economic stimulus measures must include funds for states and localities struggling to maintain basic government functions. And they must be designed to create a recovery shared by all Americans, especially the most vulnerable. That is why we are fighting week after week for the president and Congress to do their jobs and secure the federal funds needed to keep workers healthy, protected, and employed and to keep local and state governments, the Postal Service, and colleges and public schools functioning. This pandemic crushed state revenues as people had to stay home; Trump and Senate Majority Leader Mitch McConnell need to work with Democrats to save states, schools, and small businesses—just as 84 percent of Americans want them to do, according to a poll in May.

This gets to the heart of who we are as a union—we care, we fight, and we show up. I have never been more proud of our members. Our members are helpers and heroes who amaze me and give me hope during these difficult days. Together, we will get through this.

"If we didn't do this, there are kids who would go hungry. I don't want any child to go hungry while schools are closed."

-Yolanda Fisher. food service manager and member of the Alliance/AFT (Dallas)



From Aid to Advocacy

Student Debt Clinics build on this education and empowerment by providing our members with opportunities to engage in finding solutions to the student debt crisis. Participants have:

- Provided important information for our lawsuits against both U.S. Secretary of Education Betsy DeVos and the student loan servicer Navient for mismanagement and deception in their handling of Public Service Loan Forgiveness;
- Pushed for state laws providing consumer protections for student borrowers and campaigned for and elected politicians who prioritize affordable higher education and student debt relief; and

 Used collective bargaining to expand the number of workers eligible for Public Service Loan Forgiveness and to explore other methods for providing debt relief.

Student Debt Clinics demonstrate how our unions are leading for change on an issue that directly impacts the pocketbooks of our members and invites members to be a part of the debt relief movement.

Hosting a Student Debt Clinic at Your Union

Is your union ready to host a Student Debt Clinic? Make a request to debtclinic@aft. org; AFT staff will contact you to set up the clinic and provide a trainer for the session. The AFT also provides Student Debt Clinic Train-the-Trainers to prepare activists to present the clinic and provide best practices for organizing successful events and campaigns on student loan debt. Request a Train-the-Trainer at debtclinic@aft.org.

Introducing Summer

Support for our members with student debt doesn't end when they leave the clinic! AFT's Summer benefit allows members to enroll for free in Summer's online student loan management platform (www.meetsummer.org/aft). It helps our members enroll in and manage the paperwork for income-driven repayment and Public Service Loan Forgiveness, find other debt relief programs, and tailor student loan repayment options to their individual needs. Thousands of AFT members have already joined Summer and have saved \$82 million so far!

Supporting ELLs during the Pandemic

BY ERICA SCHATZLEIN

Across the country, teachers watched the global pandemic unfold with shock and trepidation. Like my fellow teachers of English language learners (ELLs), I watched with an added layer of concern. Too often, ELLs experience situations at school where their educational rights are violated. During a pandemic, these inequities could be greatly amplified.

One reason I am so dedicated to my union is because we fight for our ELLs. In February, we were seeking more multilingual educational support professionals and more ELL teachers and we won big for our ELLs.



The Saint Paul Federation of Educators walked out to get students the services they need. After winning key supports, they hurried back in to prepare for remote learning.

> Erica Schatzlein teaches English language learners at a public Montessori school in Saint Paul, Minnesota. She is also vice president of the Saint Paul Federation of Educators and a member of the AFT ELL Cadre. This essay is adapted from Share My Lesson's blog. For the original version with links to many resources, see https:// sharemylesson.com/blog/supporting-ells.

As teachers of ELLs, advocacy runs in our blood. I am a proud member of the Saint Paul Federation of Educators (SPFE) in Minnesota. One reason I am so dedicated to my union is because we fight for our ELLs, and their educational needs are prominent in our policy proposals. In February, we were in the middle of union contract negotiations, with our ELLs front and center. We were seeking more multilingual educational support professionals, who are a critical link between schools and families. We were seeking staffing ratios for our ELL teachers, so that we can ensure our students receive enough individual attention to increase their academic English skills. We were asking our district to provide these things for our ELLs, and we weren't settling without them.

So as COVID-19 first started to spread across China, and then Italy, the 3,400 members of the SPFE went on strike. After nine months of negotiations, the strike was our ultimate refusal to accept a contract that did not meet our students' needs. In addition to the proposals for our ELLs, we walked out to demand mental health supports for all students, and support for students who receive special education services.

When the pandemic spread, we knew we needed to get our staff back into schools. We didn't win everything we asked for, but we won for our ELLs. We won a staffing ratio that will get closer to ensuring all schools have the ELL resources they need, additional multilingual education support professionals, and contract language that ensures our ELL teachers aren't pulled away to be substitutes.

Two days after we settled, Gov. Tim Walz ordered Minnesota schools closed to help slow the spread of COVID-19. Then we shifted to distance learning. And our work of ensuring equitable access to our ELLs started immediately.

Distance Learning

I often tell people I have the best job in the entire school system. I love language, and I spend my days helping students expand their abilities in reading, writing, listening, and speaking. Suddenly, my students and I found ourselves in a different world. How were we going to communicate? How could I check in on them and ensure their needs were being met?

Sometimes, it feels like every single thing about education has changed.

However, many things remain the same: Our students need equitable access to education, and our families need accurate information. These needs are true for every child and family, inclusive of all languages, immigration statuses, religions, and countries of origin.

For educators, having resources like Share My Lesson (https://sharemylesson. com/) and Colorín Colorado (www.colorin colorado.org/) are essential.

Distance learning can never replace the magic that occurs in my face-to-face classes: the collaboration, the co-teaching, and the community. Nonetheless, educators in my school and across the country are rolling up our sleeves and working relentlessly to give students every educational opportunity.

Fighting for the **Rights of Our Students**

Language, academics, and social-emotional health are three essential tenets of any educational program. At all times, my students need opportunities to develop their language skills. Because many distance learning lessons rely on students reading texts and responding in writing, I am also focusing on listening and speaking with my students. They need access to audio and video, and they need structured and supported opportunities to speak, too.

This work is challenging, but also rewarding. In one week in April, I experienced the delight of listening to a recording of one of my fourth-graders as she described what she has been reading, and what the characters sound like in her mind. Just one day later, I endured the pain of learning that one of our students experienced a racist anti-Asian hate crime while standing in her front yard. While she is physically unhurt, the trauma and fear our students and families—especially our Asian students and families—are experiencing must be considered in our instruction.

Supporting ELLs' language and academic growth, as well as their social and emotional well-being, is essential. When I feel like everything in the world has changed, I return to these elements, centering myself in the needs of my ELLs and their families. Meeting those needs will be difficult, but it is the most important thing I can do as an ELL teacher.

(Photo credits on page 40)

Teaching Reading *Is* Rocket Science

(Continued from page 9)

- 12. S. Brady, "Efficacy of Phonics Teaching for Reading Outcomes: Implications from Post-NRP Research," in Explaining Individual Differences in Reading, ed. S. Brady, D. Braze, and C Fowlers (London: Psychology Press, 2011), 69–96; S. Brady, "The 2003 IDA Definition of Dyslexia: A Call for Changes Perspectives on Language and Literacy 45, no. 1 (2019): 15-21; A. Kjeldsen et al., "Gains from Training in Phonological Awareness in Kindergarten Predict Reading Comprehension in Grade 9," Scientific Studies of Reading 18, no. 6 (2014): 452-468: I. Y. Liberman, D. Shankweiler, and A. M. Liberman, "The Alphabetic Principle and Learning to Read," in Phonology and Reading Disability: Solving the Reading Puzzle, ed. D. Shankweiler and A. Liberman (Ann Arbor, MI: University of Michigan Press, 1989); and H. S. Scarborough and S. A. Brady, "Toward a Common Terminology for Talking about Speech and Reading: A Glossary of 'Phon' Words and Some Related Terms," Journal of Literacy Research 34, no. 3 (2002): 299-336
- 13. E. D. Hirsch, Why Knowledge Matters: Rescuing Our Children from Failed Educational Theories (Cambridge, MA: Harvard Education Press, 2016); and N. Wexler, The Knowledge Gap: The Hidden Cause of America's Broken Education System—and How to Fix It (New York: Penguin Random House, 2019).
- 14. D. T. Willingham, "The Usefulness of Brief Instruction in Reading Comprehension Strategies," American Educator 30, no. 4 (Winter 2006-2007): 39-50.
- 15. S. Graham and M. Herbert, Writing to Read: Evidence for How Writing Can Improve Reading (Washington, DC: Alliance for Excellent Education, 2010)
- 16. L. C. Moats, Speech to Print: Language Essentials for Teachers (Baltimore, MD: Brookes Publishing, 2020); C. Snow, P. Griffin, and S. Burns, Knowledge to Support Teaching of Reading: Preparing Teachers for a Changing World (San Francisco: Jossey Bass, 2005); and E. K. Washburn, R. M. Joshi, and E. S. Binks-Cantrell, "Teacher Knowledge of Basic Language and Concepts and Dyslexia," Dyslexia 17 (2011): 165-183.
- 17. Moats, Speech to Print; L. Spear-Swerling, "Structured Literacy and Typical Literacy Practices: Understanding Differences to Create Instructional Opportunities," Teaching Exceptional Children 51 (2019): 201–211; and G. P. Wallach, S. Charlton, and J. C. Bartholomew, "The Spoken-Written Comprehension Connection: Constructive Intervention Strategies," in Handbook of Language and Literacy Development and Disorders, ed. C. A. Stone et al. (New York: Guilford, 2014), 485-501.
- 18. A. L. Archer and C. A. Hughes, Explicit Instruction: Effective and Efficient Teaching (New York: Guilford, 2011); and Spear-Swerling, "Structured Literacy."

The Reading League

(Continued from page 12)

- 2. L. C. Ehri, "Teaching Phonemic Awareness and Phonics: An Explanation of the National Reading Panel Meta-Analysis," in The Voice of Evidence in Reading Research, ed. P. McCardle and V. Chhabra (Baltimore: Paul Brookes, 2004),
- 3. L. C. Ehri, "Orthographic Mapping in the Acquisition of Sight Word Reading, Spelling Memory, and Vocabulary Learning, Scientific Studies of Reading 18, no. 6 (2014): 5-21
- 4. R. Joshi et al., "How Words Cast Their Spell: Spelling Is an Integral Part of Learning the Language, Not a Matter of Memorization," American Educator 32, no. 4 (Winter 2008-2009); 6-16, 42-43
- 5. K. Cain and J. Oakhill, eds., Children's Comprehension Problems in Oral and Written Language: A Cognitive Perspective (New York: Guilford, 2007)
- 6. See B. A. Blachman et al., "Effects of Intensive Reading Remediation for Second and Third Grades and a 1-Year Follow-Up," Journal of Educational Psychology 96 (2004): 444-461; and B. A. Blachman et al., "Intensive Reading Remediation in Grade 2 or 3: Are There Effects a Decade Later?," Journal of Educational Psychology 106 (2014): 46-57
- 7. Blachman et al., "Intensive Reading Remediation in Grade
- 8. K. Walsh and G. Drake, Teacher Prep Review: Program Performance in Early Reading Instruction (Washington, DC: National Council on Teacher Quality, 2020).

- 9. National Reading Panel, Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction (Bethesda, MD: National Institute of Child and Human Development, 2000); and D. K. Dickinson and S. B. Neuman, eds., Handbook of Early Literacy Research, Volume 2 (New York: Guilford, 2007).
- 10. L. Crutchfield, How Change Happens: Why Some Social Movements Succeed while Others Don't (Hoboken, NJ: Wiley, 2018).
- 11. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress, "Results from the 2019 Mathematics and Reading Assessments," www.nations reportcard.gov/mathematics/supportive_files/2019_infographic.pdf

Limiting Children

(Continued from page 17)

- 19. H. Beldin, "Informal Reading Testing: Historical Review and Review of the Research," in Reading Difficulties: Diagnosis, Corrections, and Remediation, ed. W. Durr (Newark, DE: International Reading Association, 1970), 67-84.
- 20. W. Powell, "Reappraising the Criteria for Interpreting Informal Reading inventories," paper presented at the annual meeting of the International Reading Association, Boston, MA, 1968.
- 21. A. Morgan, B. Wilcox, and J. Eldredge, "Effect of Difficulty Levels on Second-Grade Delayed Readers Using Dyad Reading," *Journal of Educational Research* 94, no. 2 (2000): 113-119.
- 22. L. Brown et al., "The Effects of Dyad Reading and Text Difficulty on Third-Graders' Reading Achievement," Journal of Educational Research 111, no. 5 (2017): 541–553
- 23. M. Kuhn et al., "Teaching Children to Become Fluent and Automatic Readers," Journal of Literacy Research 38, no. 4 (2006): 357-387.
- 24. R. O'Connor, H. Swanson, and C. Geraghty, "Improvement in Reading Rate Under Independent and Difficult Text Levels: Influences on Word and Comprehension Skills, Journal of Educational Psychology 102 (2010): 1-19.
- 25. S. Lupo et al., "An Exploration of Text Difficulty and Knowledge Support on Adolescents' Comprehension Reading Research Quarterly 54, no. 4 (2019): 457-479.
- 26. D. Griffith and A. Duffett, Reading and Writing Instruction in America's Schools (Washington, DC: Thomas Fordham Foundation, 2018); and V. Opfer, J. Kaufman, and L. Thompson, Implementation of K-12 State Standards for Mathematics and English Language Arts and Literacy. Findings from the American Teacher Panel (Santa Monica, CA: RAND Corporation, 2016).
- 27. A. Sørenson and M. Hallinan, "Effects of Ability Grouping on Growth in Academic Achievement," American Educational Research Journal 23, no. 4 (1986): 519-542
- 28. V. Mih and C. Mih, "Reducing Children's Reading Comprehension Difficulties through a Training for Enhancing Sentence Organization Skills," Cognition, Brain, Behavior. An Interdisciplinary Journal 16, no. 3 (2012): 387-401.
- 29. J. Irwin, "Linguistic Cohesion and the Developing Reader/Writer," Topics in Language Disorders 8, no. 3 (1988): 14-23.
- 30. K. Wijekumar, B. Meyer, and P. Lei, "Web-Based Text Structure Strategy Instruction Improves Seventh Graders' Content Area Reading Comprehension," Journal of Educational Psychology 109, no. 6 (2017): 741–760.

Building Knowledge

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that students living in poverty get the mental health and support services they need, and engaging families in their children's learning. But if we don't also give students access to knowledge of the world during elementary school, we'll never achieve the result we want: a system that equips all students to lead productive and fulfilling lives and carry out their responsibilities as members of a democratic society.

Fndnotes

- 1. E. Hanushek et al., "The Achievement Gap Fails to Close," Education Next 19, no. 3 (Summer 2019)
- 2. S. D. Sparks, "Global Reading Scores Are Rising, but Not for U.S. Students," Education Week, December 5, 2017.
- 3. Kerry Sylvia, former teacher at Cardozo Education Campus, Washington, D.C., conversation with author, July
- 4. David Tansey, former teacher at Dunbar High School, Washington, D.C., conversation with author, April 30, 2016.
- 5. Kim Stalnaker, teacher at Eastern Senior High School Washington, D.C., conversation with author, June 16, 2016.
- 6. M. Balingit, "U.S. High School Graduation Rates Rise to New High," Washington Post, December 4, 2017.
- 7. M. Dynarski, "Is the High School Graduation Rate Really Going Up?," Brookings (blog), May 3, 2018.
- 8. K. McGee, "In D.C., 34 Percent of Graduates Received a Diploma against District Policy," NPR, January 29, 2018.
- 9. R. Chetty, J. N. Friedman, and J. Rockoff, "Great Teaching," Education Next 12, no. 3 (Summer 2012); and E. A. Hanushek et al., "Education and Economic Growth," Education Next 8, no. 2 (Spring 2008).
- 10. K. G. Bates, "Report Updates Landmark 1968 Racism Study, Finds More Poverty and Segregation," NPR, February 27, 2018; D. DeSilver, "U.S. Income Inequality, on Rise for Decades, Is Now Highest since 1928," Fact Tank (blog), Pew Research Center, December 5, 2013; and R. V. Reeves, Dream Hoarders: How the American Upper Middle Class Is Leaving Everyone Else in the Dust, Why That Is a Problem, and What to Do about It (Washington, DC: Brookings Institution Press, 2017)
- 11. D. L. Kirp, "Ending the Curse of Remedial Math," New York Times, June 10, 2017. More than two-thirds of community college students need to take remedial math or English classes, which cost them money but don't earn them any credit. Only 15 percent of these students get their degrees on time
- 12. L. Holt, "The Baseball Experiment: How Two Wisconsin Researchers Discovered That the Comprehension Gap Is a Knowledge Gap," Amplify Blog, accessed July 28, 2018.
- 13. D. R. Recht and L. Leslie, "Effect of Prior Knowledge on Good and Poor Readers' Memory of Text," Journal of Educational Psychology 80, no. 1 (March 1988): 16-20.
- 14. T. Kaefer, S. B. Neuman, and A. M. Pinkham, "Pre-Existing Background Knowledge Influences Socioeconomic Differences in Preschoolers' Word Learning and Comprehension," Reading Psychology 36, no. 3 (2015): 203-231
- 15. G. N. Cervetti, T. S. Wright, and H. Hwang, "Conceptual Coherence, Comprehension, and Vocabulary Acquisition: A Knowledge Effect?," Reading and Writing 29, no. 4 (April 2016): 761-779
- 16. M. Fordham, "The Knowledge Party in My Head," Clio et cetera (blog), November 21, 2016, www.clioetcetera. com/2016/11/21/the-knowledge-party-in-my-head.
- 17. D. T. Willingham, The Reading Mind: A Cognitive Approach to Understanding How the Mind Reads (San Francisco: Jossey-Bass, 2017), 89.
- 18. I. Beck, M. McKeown, and L. Kucan, "Choosing Words to Teach," in Bringing Words to Life: Robust Vocabulary Instruction (New York: Guilford Press, 2002), 15–30.
- 19. M. Seidenberg, Language at the Speed of Sight and Sound: How We Read, Why So Many Can't, and What Can Be Done about It (New York: Basic Books, 2017), 111-113; and Cervetti, Wright, and Hwang, "Conceptual
- 20. L. C. Moats, "Overcoming the Language Gap, American Educator 25, no. 2 (Summer 2001): 8-9.
- 21. Linnea Wolters, quoted in E. Hanford, "Common Core Reading: 'The New Colossus,'" NPR, November 11, 2014.
- 22. N. B. Harris, The Deepest Well: Healing the Long-Term Effects of Childhood Adversity (New York: Houghton Mifflin Harcourt, 2018); and M. Kirk, "What Kids' Trauma Looks Like across the U.S.," The Atlantic, February 27, 2018.
- 23. E. Caucutt, "Why Do Poor Children Perform More

- Poorly Than Rich Ones?," The Conversation, April 23, 2015, www.theconversation.com/why-do-poor-children-performmore-poorly-than-rich-ones-39281
- 24. S. Tavernise, "Education Gap Grows between Rich and Poor, Studies Say," New York Times, February 10, 2012.
- 25. A. Lareau, Unequal Childhoods: Class, Race, and Family Life (Berkeley: University of California Press, 2003)
- 26. M. Wolf, Proust and the Squid: The Story and Science of the Reading Brain (New York: HarperCollins, 2007), 85–90.
- 27. B. Hart and T. R. Rislev. Meaningful Differences in the Everyday Experience of Young American Children (Baltimore: Brookes Publishing, 1995).
- 28. A. Trafton, "Back-and-Forth Exchanges Boost Children's Brain Response to Language," MIT News, February 13,
- 29. E. Christakis, "The Dangers of Distracted Parenting," The Atlantic, July/August 2018.
- 30. S. B. Neuman, T. Kaefer, and A. M. Pinkham, "A Double Dose of Disadvantage: Language Experiences for Low-Income Children in Home and School," *Journal of Edu*cational Psychology 110, no. 1 (January 2018): 102–118.
- 31. S. Bernstein et al., "Kindergartners' Skills at School Entry: An Analysis of the ECLS-K," Mathematica Policy Research, July 15, 2014, 3.
- 32. J. S. Chall and V. A. Jacobs, "The Classic Study on Poor Children's Fourth-Grade Slump," American Educator 27, no. 1 (Spring 2003). On nationwide reading tests, the gaps don't appear to increase much if you look only at standard deviations, which is the way the results are reported. But it takes far more work to make up one standard deviation at upper grade levels than at lower grade levels. In the early grades, a student might need to make up only one grade level to move up a standard deviation. By eighth grade, it would take three grade levels to move up one standard deviation—and far more at the high school level. David Grissmer, research professor, Curry School of Education, University of Virginia, conversation with author, April 27, 2016.
- 33. K. Stanovich, "Matthew Effects in Reading: Some Consequences of Individual Differences in the Acquisition of Literacy," Reading Research Quarterly 21, no. 4 (Fall 1986):
- 34. M. J. Adams, "Advancing Our Students' Language and Literacy: The Challenge of Complex Texts," American Educator 34, no. 4 (Winter 2010–2011): 5; and S. L. Hall and L. C. Moats, "Why Reading to Children Is Important," American Educator 24, no. 1 (Spring 2000): 26-33. While class discussion is also important, teachers need to read aloud to children because virtually all written language uses more complex vocabulary and syntax than spoken language, with the only exception being expert witness
- 35. D. Fisher and N. Frey, "Speaking and Listening in Content Area Learning," *The Reading Teacher* 68, no. 1 (September 2014): 64-69.
- 36. R. C. Atkinson and R. M. Shiffrin, "Human Memory: A Proposed System and Its Control Processes," in The Psychology of Learning and Motivation: Advances in Theory and Research, vol. 2, ed. K. W. Spence and J. T. Spence (New York: Academic Press, 1968), 89–195.
- 37. D. T. Willingham, "School Time, Knowledge, and Reading Comprehension," Science and Education (blog), March 7, 2012

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- UK: Multilingual Matters, 2017).
- 6. Baker and Wright, Foundations of Bilingual Education.
- 7. See, for example, A. Miyake and N. P. Friedman, "The Nature and Organization of Individual Differences in Executive Functions: Four General Conclusions," Current Directions in Psychological Science 21, no. 1 (2012): 8-14.
- 8. A. Baddeley, "Working Memory," Science 255, no. 5044 (1992): 556-559
- 9. See, for example, M. M. Martin-Rhee and E. Bialystok, "The Development of Two Types of Inhibitory Control in Monolingual and Bilingual Children," Bilingual: Language and Cognition 11, no. 1 (2008): 81-93.
- 10. See, for example, J. Morales, A. Calvo, and E. Bialystok, "Working Memory Development in Monolin-

- gual and Bilingual Children," Journal of Experimental Child Psychology 114, no. 2 (2013): 187-202
- 11. See, for example, E. Bialystok and M. M. Martin "Attention and Inhibition in Bilingual Children: Evidence from the Dimensional Change Card Sort Task. Developmental Science 7 (2004): 325-339
- 12. E. Bialystok and R. Barac, "Emerging Bilingualism: Dissociating Advantages for Metalinguistic Awareness and Executive Control," Cognition 122, no. 1 (2012): 67-73.
- 13. N. Ferjan Ramírez et al., "Speech Discrimination in 11-Month-Old Bilingual and Monolingual Infants: A Magnetoencephalography Study," Developmental Science 20, no. 1 (2017).
- 14. See, for example, K. R. Paap and Z. Greenberg, "There Is No Coherent Evidence for a Bilingual Advantage in Executive Processing," Cognitive Psychology 66 (2013):
- 15. See, for example, O. O. Adesope et al., "A Systematic Review and Meta-Analysis of the Cognitive Correlates of Bilingualism," Review of Educational Research 80, no. 2 (2010): 207-245.
- 16. J. B. Morton and S. N. Harper, "What Did Simon Say?: Revisiting the Bilingual Advantage," Developmental Science 10 (2007): 719-726.
- 17. S. E. Carroll, "Exposure and Input in Bilingual Development," Bilingualism: Language and Cognition 20, no. 1 (2017): 3-16.
- 18. J. Verhagen, E. de Bree, and S. Unsworth, "Effects of Bilingual Language Use and Language Proficiency on 24-Month-Olds' Cognitive Control." Journal of Cognition and Development 21, no. 1 (2020): 46-71
- 19. S. J. Galambos and K. Hakuta, "Subject-Specific and Task-Specific Characteristics of Metalinguistic Awareness in Bilingual Children," Applied Psycholinguistics 9, no. 2 (1988): 141-162
- 20. See, for example, M. J. Adams, Beginning to Read: Thinking and Learning about Print (Cambridge, MA: MIT Press, 1990); and E. Bialystok, Bilingualism in Development: Language, Literacy, and Cognition (Cambridge, UK: Cambridge UP, 2001).
- 21. Galambos and Hakuta, "Subject-Specific and Task-Specific"; S. J. Galambos and S. Goldin-Meadow, 'The Effects of Learning Two Languages on Levels of Metalinguistic Awareness," Cognition 34, no. 1 (1990):
- 22. W. E. Nagy and R. C. Anderson, Metalinguistic Awareness and Literacy Acquisition in Different Languages, Technical Report No. 116 (University of Illinois at Urbana-Champaign, November 1995)
- 23. See, for example, H. Shu, H. Peng, and C. McBride-Chang, "Phonological Awareness in Young Chinese Children," Developmental Science 11 (2008): 171-181.
- 24. C. A. Perfetti and S. Dunlap, "Learning to Read: General Principles and Writing System Variations," in Learning to Read Across Languages, ed. K. Koda and A. Zehler (Mahwah, NJ: Erlbaum, 2008), 29.
- 25. See, for example, C. Lü, Chinese Literacy Learning in an Immersion Program (London: Palgrave McMillan, 2019), 84,
- 26. Perfetti and Dunlap, "Learning to Read," 35.
- 27. A. Y. Durgunoğlu, W. E. Nagy, and B. J. Hancin-Bhatt, 'Cross-Language Transfer of Phonological Awareness, Journal of Educational Psychology 85, no. 3 (1993): 453-465
- 28. W. E. Nagy et al., "Spanish-English Bilingual Students" Use of Cognates in English Reading," Journal of Reading Behavior 25 (1993): 241-259.
- 29. K. Hipfner-Boucher et al., "Cognate Awareness in French Immersion Students: Contributions to Grade 2 Reading Comprehension," Scientific Studies of Reading 20, no. 5 (2016): 389-400.
- 30. G. E. García, L. J. Sacco, and B. E. Guerrero-Arias, "Cognate Instruction and Bilingual Students' Improved Literacy Performance," *The Reading Teacher* 73, no. 5 (2020): 617-625
- 31. K. Koda, C. Lü, and D. Zhang, "L1-Induced Facilitation in Biliteracy Development in Chinese and English," in Reading Development and Difficulties in Monolingual and Bilingual Chinese Children, ed. X. Chen, Q. Wang, and Y. Luo (Dordrecht, Netherlands: Springer, 2014), 141-170.
- 32. J. F. Carlisle, "Morphological Awareness and Early Reading Achievement," in Morphological Aspects of

- Language Processing, ed. L. B. Feldman (Hillsdale, NJ: Erlbaum, 1995), 189-209.
- 33. W. E. Nagy, V. Berninger, and A. D. Abbott, "Contributions of Morphology beyond Phonology to Literacy Outcomes of Upper Elementary and Middle-School Students," Journal of Educational Psychology 98 (2006): 134–147
- 34. See, for example, K. Levesque, M. J. Kieffer, and S. H. Deacon, "Inferring Meaning from Meaningful Parts: The Contributions of Morphological Skills to the Development of Children's Reading Comprehension, Reading Research Quarterly 54 (2019): 63–80; and Nagy, Berninger, and Abbott, "Contributions of Morphology."
- 35. See, for example, H. Zhang, "Morphological Awareness in Vocabulary Acquisition among Chinese-Speaking Children: Testing Partial Mediation via Lexical Inference Ability," Reading Research Quarterly 50 (2015): 129-142.
- 36. R. Xie et al., "The Relationship between Morphological Awareness and Reading Comprehension among Chinese Children," Frontiers in Psychology 10 (2019).
- 37. D. Zhang, "Linguistic Distance Effect on Cross-Linguistic Transfer of Morphological Awareness, Applied Psycholinguistics 34 (2013): 917-942.
- 38. See, for example, V. P. Collier and W. P. Thomas, "The Astounding Effectiveness of Dual Language Education for All," NABE Journal of Research and Practice 2, no. 1 (2004): 1–20; J. L. Steel et al., "The Effects of Dual-Language Immersion Programs on Student Achievement: Evidence from Lottery Data," American Educational Research Journal 54, no. 15 (2017): 2825-306S; and J. Watzinger-Tharp, F. Rubio, and D. S. Tharp, "Linguistic Performance of Dual Language Immersion Students, Foreign Language Annals 51, no. 3 (2018): 575–595.
- 39. See, for example, K. Lindholm-Leary, "Students" Perceptions of Bilingualism in Spanish and Mandarin Dual Language Programs," *International Multilingual Research Journal* 10, no. 1 (2016): 59–70; and Lü, Chinese Literacy Learning.
- 40. See, for example, W. S. Francis, "Bilingual Semantic and Conceptual Representation," in Handbook of Bilingualism: Psycholinguistic Approaches, ed. J. F. Kroll and A. M. de Groot (Oxford, UK: Oxford UP, 2005): 251-267.
- 41. See, for example, A. Pavlenko, ed., The Bilingual Mental Lexicon: Interdisciplinary Approaches (Clevedon, UK: Multilingual Matters, 2009).
- 42. See, for example, D. Fisher and N. Frey, "Building and Activating Background Knowledge," Principal Leadership 11, no. 4 (2010): 62-64.
- 43. See, for example, R. J. Marzano, Building Background Knowledge for Academic Achievement: Research on What Works in Schools (Alexandria, VA: Association for Supervision and Curriculum Development, 2004).
- 44. See, for example, J. F. Carlisle, "Effects of Instruction in Morphological Awareness on Literacy Achievement An Integrative Review," *Reading Research Quarterly* 45 (2010): 464–487; and M. J. Kieffer and C. D. Box, 'Derivational Morphological Awareness, Academic Vocabulary, and Reading Comprehension in Linguistically Diverse Sixth Graders," Learning and Individual Differences 24 (2013): 168-175.
- 45. See, for example, J. Cummins, Language, Power, and Pedagogy: Bilingual Children in the Crossfire (Bristol, UK: Multilingual Matters, 2000).

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Joe Biden: A lifetime of sharing our values

Through a lifetime of public service, Joe Biden has developed a deep understanding of what our members, communities and country need. He is committed to public education as a pillar of our American democracy.

A Biden administration will continue to put middle-class values front and center. He is with us on investing in public education, making healthcare and college more affordable, recognizing that healthcare is a right, not a privilege, and rebuilding an economy that puts the needs of everyday people first. And he has shown the compassion and leadership needed to guide us through the crisis of the pandemic.

His agenda and proposals reflect these priorities. Joe Biden will:

- Create a federally funded State and Local Emergency Fund to provide resources and flexibility for responding to the immediate health crisis created by COVID-19, its economic fallout, and the threats posed to maintaining public preK-12 and higher education programs.
- **Triple Title I funding** to even the playing field for low-income students.
- Provide **universal pre-K** for 3- and 4-year-olds.
- Oppose diverting public funds to support private school voucher programs.